MODERN PACKAGING

OCTOBER 1957

The fibre can industry thrives on a kind of packaging that combines function with low cost

COMPLETE CONTENTS p. 2

2 years of successful application • In making new skin and blister packages, what are the variables that affect adhesives? Heat. Time. Pressure. Film. Board. Ink. Moreover, the same adhesive coating must also function as a clear glossy varnish over printed display cards.

Sound complex?

It needn't be. Because a thorough background of experience and understanding is available from National.

Since early 1955 National has worked with suppliers of machinery, ink, film and other essential materials. The result is a perfected group of gloss producing heat seal adhesives. Odorless. Tasteless. Colorless. Nonblocking.

Our adhesive specialists are ready to help you use films of cellulose acetate, cellulose acetate butyrate or vinyl in making new Blister and Skin Packages. Write or call your nearest National office.

MEMBER
19th Annual Forum
Oct. 28, 29, 30, 1957
Hotel Statler
New York City

RESYNS® National ADHESIVES

NATIONAL STARCH PRODUCTS INC.

270 Madison Avenue, New York 16 • 3641 So. Washtenaw Avenue, Chicago 32 • 735 Battery Street, San Francisco 11

Tailor-made carton service *by* Gair

Gair makes Kool look cooler! The contrast of excellent printing and snow white board achieves clean-to-the-eye coolness with refreshing color . . . helps Kools satisfy taste even before they're lit.

Gair gives pea-in-a-pod identity to over 40 high-volume Ann Page products. Seal-end cartons protect fresh flavor, acetate display windows sell taste-appeal. And Gair's bold clean printing and rich white board help sell A&P food fast from display.

Gair gives Toni's diversified products instant brand-name identity from any angle. With bright white board for Regular Toni, with glistening foil for Toni Silver Curl, Gair's superior color printing helps cosmetics fulfill their promise of beauty.

Gair has a proven flair for creating cartons that sell. Gair Service is also a proven asset to satisfied customers everywhere. Discover how *your* product can be even more of a prize in a package by Gair—call your Gair representative or write Gair, today.

TAILOR-MADE PACKAGE SERVICE

GAIR

creative engineering in packaging

BOXBOARD AND FOLDING CARTON DIVISION OF CONTINENTAL CAN COMPANY

530 FIFTH AVENUE, NEW YORK 36, N. Y.

MODERN PACKAGING

109 **Industrial packaging today**
Trends: better exteriors, more scientific protection, lighter materials, mechanization to keep costs down.

114 **Squeeze-bottle toothpaste**
Bristol-Myers' new concept could touch off a toothpaste-packaging revolution.

116 **Fuller's photogenics**
Because sales stem from catalog pages, packages are designed to look their best in pictures.

120 **Are supermarkets happy?**
Not by a long shot! They tell how better packaging could reduce store costs and increase sales.

124 **Fibre cans**
Supplier Industry Survey. New improvements widen the field for this low-cost package; more savings are due.

132 **Design Histories**

134 **Ice mold for golf balls**
U. S. Rubber's polyethylene "ice tray package" turns out perfect (for highballs) reproductions.

136 **Plastic cork for champagne**
Molded polyethylene stopper represents for plastics a victory over tradition.

140 **Packaging Pageant**

150 **Packaging Institute program**
Packaging-merchandising's more vital role tomorrow will highlight 19th Annual Forum.

152 **Display Gallery**

165 **Brilliant moth crystals**
Flexographic-printed foil labels give jewel-like color appeal, cut container costs.

Production methods

129 **Siftproof folding carton**
Produced by Swedish machine, it's another major functional improvement in folding boxes.

138 **Solution of a drum-liner problem**
GE's two-coat copolymer system handles all silicone resins under one specification. *By Reuben Gutoff.*

144 **Hand packaging can be engineered**
Garlock Packing's new system enables better, faster, cheaper packaging of pump fittings.

148 **Thermoforms for auto parts**
Holley Carburetor's all-acetate package for contact points gives better merchandising at lower cost.

154 **Continuous flexible vacuum packaging**
Mechanized film packaging of sliced luncheon meats incorporates three major advances in this field.

158 **Washers by count**
Unit-packaging system devised by The Mellowes Co. simplifies distribution and handling.

Technical

167 **Performance of a new polyethylene**
Studies of a low-pressure resin with packaging potentialities. *By R. J. Martinovich and Paul J. Boeke.*

174 **New sizing for food papers**
Report on a material effective under alkaline conditions. *By D. G. Lundgren, R. E. Kelly and A. K. Wiebe.*

180 **Questions and Answers**

Departments

182 **Equipment and materials**
192 **Plants and people**
216 **For your information**
43 **Background for Packaging.** *Notes, quotes and comments.*

220 **U. S. patents digest**
245 **Manufacturers' literature**
262 **Index to advertisers**

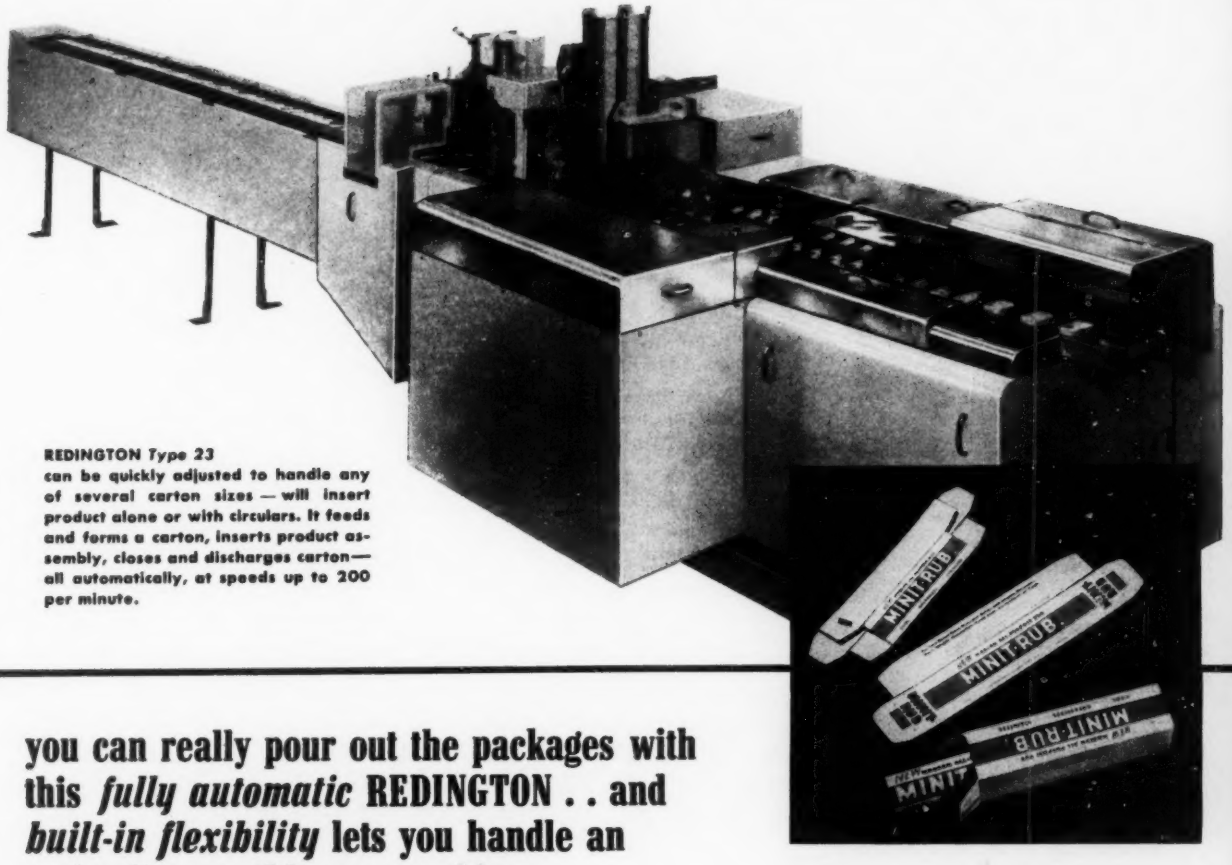
107 **Featured in this issue**

Summaries of some of the more important articles, to aid your reading selection.

Modern Packaging Executive and Editorial Offices, 575 Madison Avenue, New York 22, N.Y.

Modern Packaging published monthly by Modern Packaging Corp., at Emmett St., Bristol, Conn. Modern Packaging Encyclopedia Issue published as second issue in November by Packaging Catalog Corp. at Emmett St., Bristol, Conn. Second-class mail privilege authorized at Bristol, Conn. Subscription rates (including Modern Packaging Encyclopedia Issue), payable in U.S. currency: in U.S., its possessions, and Canada, 1 year $7, 2 years $12, 3 years $17; all other countries, 1 year $20, 2 years $35, 3 years $50. Single copies 75 cents each (Show Issue, $1; Encyclopedia Issue, $3) in U.S., its possessions, and Canada; all other countries $2 (Show Issue, $2.50; Encyclopedia Issue, $6).

® Reg. U.S. Pat. Off.



REDINGTON *Type 23*
can be quickly adjusted to handle any of several carton sizes — will insert product alone or with circulars. It feeds and forms a carton, inserts product assembly, closes and discharges carton— all automatically, at speeds up to 200 per minute.

you can really pour out the packages with this *fully automatic* REDINGTON . . and *built-in flexibility* lets you handle an entire line on this one machine . .

200-per-minute production of completed packages, hour in and hour out, is a feature which appeals to almost any manufacturer of cartoned products in volume.

Yet this is only *one* feature of this REDINGTON. Of equal importance, in many cases, is its *"built-in" flexibility* —the ease with which it can be adjusted to handle any of several sizes in a line, and the fact that it can handle either a product alone, or accompanied by a circular.

In this case, the REDINGTON was built for BRISTOL-MYERS COMPANY, Hillside, N. J., to handle a wide variation of product sizes, and was equipped with a mechanism which feeds, folds and inserts circulars with the product, when required. Thus, no matter what variations in demand or other packaging factors may occur, the REDINGTON will still function with high efficiency, and continue to keep production at a high level with minimum labor costs, down-time, maintenance and other profit-eating expense.

Type 23, of course, is only one of the many useful machines in the broad REDINGTON line. Whether your production needs are close to standard operations, or present unusual problems, the chances are great that there's a REDINGTON machine to fit the situation. Six decades of experience in virtually every phase of cartoning and special packaging have helped us develop skillfully engineered equipment which has given both large and small packagers throughout the world the benefits of faster production and lower packaging costs which *Automatic* cartoning with a REDINGTON makes possible. Call us in to discuss *your* problem!

★ *Write today for a copy of our 44-page illustrated catalog, showing the broad applications of REDINGTON Automatic Cartoning and Special Packaging Machines to all kinds of packaging uses.*

Since 1897

REDINGTON

AUTOMATIC MACHINES for CARTONING WRAPPING ★ SPECIAL PACKAGING

F. B. REDINGTON CO.,
3010 ST. CHARLES ROAD, BELLWOOD, ILLINOIS
Chicago Phone: AUstin 7-4200 . . .
Verona, New Jersey: CEnter 9-4608

Executive and Editorial Offices
575 Madison Ave., New York 22, N. Y.
Telephone: PLaza 9-2710

Chairman of the board
Charles A. Breskin

President and publisher
Alan S. Cole

Editor
Lloyd Stouffer

Managing editor
Pearl Hagens

Associate editors
Gladys Tarragano
William C. Simms

Midwest editor
Phillip A. Urion (Chicago)

Western States editor
Edmund L. Van Deusen (Los Angeles)

Technical editor
Charles A. Southwick, Jr.

Advisory editor
C. W. Browne

Patents editor
H. A. Levey

Art director
Donald R. Ruther

Reader service editor
Florence Getter

Production
Daniel M. Broads, *director*
Bernard J. Farina
Verna Retzlaff

Circulation
Robert Birnbaum, *director*
George Leiz, *subscription manager*

Promotion
Philip W. Muller, *manager*

Treasurer
Beatrice Grove
Gertrude Binger, *assistant*

Business staff
M. A. Olsen, *general manager*
P. H. Backstrom
B. W. Gussow
R. C. Nilson
S. S. Siegel
B. R. Stanton

CHICAGO 11, 101 E. Ontario St.
Phone DElaware 7-0060
James M. Connors
William F. Kennedy
H. R. Friedman

CLEVELAND 22, 20310 Kinsman Rd.
Phone SKyline 1-6200
Robert C. Beggs

LOS ANGELES 48, 6535 Wilshire Blvd.
Phone OLive 3-3223
James C. Galloway

LONDON S. W. 1, England
Panton House, 25 Haymarket
Phone TRafalgar 3901
T. G. Rowden

FRANKFURT, Germany
Wittelsbacher Allee 60
Phone 46 143/46 372
Georg J. Linder

MODERN PACKAGING®

Our peripatetic packager

The conscientious packaging executive who tries to attend all meetings of interest is going to be a busy fellow this month.

The first of the month will find him at the Third Joint Military-Industry Packaging & Materials Handling Symposium at Fort Lee, Va. (Oct. 1-3). If he makes the right connections and flies all night he can get to San Francisco in time for maybe the second day of the annual convention of the Quartermaster Assn. (Oct. 3-4).

Then home for a quick hello-and-goodby to the wife and kiddies, and off to the Twelfth Annual Plastics-Paper Conference of TAPPI at Cincinnati (Oct. 7-9).

Between the 14th and 18th, if he can make it to Chicago, he may be able to take in a little of both the Plant Maintenance Show & Conference and the annual meeting of the Printing Industry of America, which are scheduled there simultaneously. But what about the 12th National Hardware Show at the Coliseum in New York, which also runs from the 14th to 18th? And what about the Society of Plastics Engineers' regional technical conference on "Polyethylenes, Properties and Uses" in Cleveland Oct. 17? And the annual meeting of the Fibre Box Assn. in Washington Oct. 17-18?

Well, if he misses the fibre box meeting, perhaps he can make the TAPPI conference on corrugated containers at Philadelphia Oct. 23-24.

Then comes the real hard choice. No man with packaging responsibilities will want to miss the Annual Forum of the Packaging Institute in New York on Oct. 28-30. But his interests more than likely will embrace also the National Industrial Packaging & Handling Exposition of the Society of Industrial Packaging & Materials Handling Engineers in Atlantic City—on exactly the same dates.

Can't something be done about this? Couldn't there be a clearing house for packaging meeting dates?

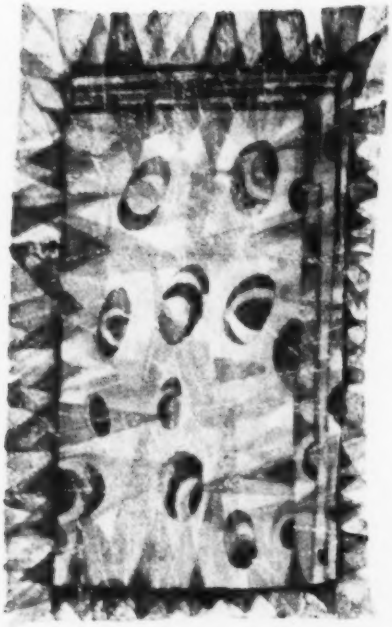
The Editors

The ABC emblem at the bottom of this page is our badge of editorial responsibility. As a member of the Audit Bureau of Circulations this magazine lives by the support of its paid subscribers; it can, therefore, have no interest but to serve its readers faithfully. For 21 years, MODERN PACKAGING has been the only magazine in its field qualified to display the ABC emblem. On this anniversary month of ABC, the Editors of MODERN PACKAGING pay tribute to their readers who by their continued support maintain these unchallenged standards.

Contents copyrighted 1957 by Modern Packaging Corp. All rights reserved, including the right to reproduce this book or portion thereof in any form. The name Modern Packaging is registered in the U.S. Patent Office. Printed in U.S.A. by Hildreth Press, Inc., Bristol, Conn. Member, Audit Bureau of Circulations. Member, Associated Business Publications. Modern Packaging is regularly indexed in the Industrial Arts Index.

The demand for packaged luncheon meats from Swift & Co. is growing fast and Dobeckmun Durafilm plays an active part in specially tailored 3-side seal vacuum pack liners. Sanitary, sturdy, bright and transparent—this inexpensive packaging keeps attracting repeat sales for retailers everywhere.

Packages for performance...



Dobeckmun Durafilm is a loyal friend
to the sales-making freshness of food. This extrusion or lamination
of transparent plastic films achieves superior product protection
and presents the look of flavor at its best.
Durafilm is tough, durable, moisture proof
and heat sealing and performs economically on packaging equipment.
Available in a wide variety of types—some with Mylar*—
Dobeckmun engineers Durafilm packaging
to the selling specifications for meats, fish, frozen food specialties,
cheeses and liquids. It is available plain or printed
to put your brand in the foreground at the point of sale.
From your own plant all the way
to the consumer's kitchen—
your product is packaged for performance by

The Dobeckmun Company,
Cleveland 1, Ohio • Berkeley 10, California
Offices in most principal cities

*DuPont Polyester Film

Fingers grip the bottle . . . not the label

This good-looking bottle does a lot more than just pose prettily on the table.

It makes itself useful, too. Armstrong designed a wide, ringed area at the top that makes the bottle easy to grip. The label is low and away from handling that might soil it. The funnel shoulder makes pouring easy. And, on the store shelf, the 6⅜" height of this package helps it look like a lot for the money. Armstrong Cork Company, Lancaster, Pennsylvania.

Armstrong PACKAGING

WATCH ARMSTRONG CIRCLE THEATRE EVERY OTHER WEDNESDAY EVENING ON CBS-TV

Pack in squeeze bottles of Tenite Polyethylene

...their bright, lustrous finish stops prospects; their promise of convenience sells customers!

Bottles blown from Tenite Polyethylene by Royal Manufacturing Company, Inc., Prescott, Arizona.

It's not surprising that bottles made of Tenite Polyethylene are so attractive. Eastman—a veteran in thermoplastics—was the first producer to market a polyethylene that yielded a lustrous finish on molded and blown items. Containers made of this material have exceptional eye appeal at the point of sale and their attractiveness continues in use.

If you already pack in squeeze bottles, or are considering them for your product, investigate the advantages of Tenite Polyethylene.

Eastman offers not only the natural, colorless polyethylene, but also polyethylene colored to meet whatever specifications you set. In addition, a full range of Tenite Polyethylene Color Concentrates is available for molders who prefer to do their own coloring of natural polyethylene.

If your need is not for squeeze bottles, Tenite Polyethylene is ready to serve you in other packaging forms. Film of Tenite Polyethylene—or paper, film or foil coated with this heat-sealable plastic—may offer a packaging method that will give your product added sales appeal at lower packaging cost. For more information on the many uses of this Tenite plastic, write EASTMAN CHEMICAL PRODUCTS, INC., subsidiary of Eastman Kodak Company, KINGSPORT, TENNESSEE.

Information regarding Tenite also can be obtained from local representatives listed under "Plastics—Tenite" in the classified telephone directories of the following cities: Atlanta, Chicago, Cleveland, Dayton, Detroit, Houston, Kansas City, Leominster (Mass.), Los Angeles, New York City, Portland (Ore.), Rochester (N. Y.), St. Louis, San Francisco, Seattle and Toronto—elsewhere throughout the world, from Eastman Kodak Company affiliates and distributors.

TENITE
POLYETHYLENE
an Eastman plastic

1932—EASTMAN'S 25TH YEAR IN PLASTICS—1957

Jewel has a reason...

Jewel's delicious frosting mix guarantees "money back with a smile." Behind that guarantee is a package that securely locks in delicate flavors, protects fluffy ingredients from moisture vapor, and keeps fine powders from sifting through seams . . . a package that really guarantees "*customer* back with a smile." It's *protected by Riegel* . . . a phrase that means:

Product protection always, plus flexible packaging materials that are

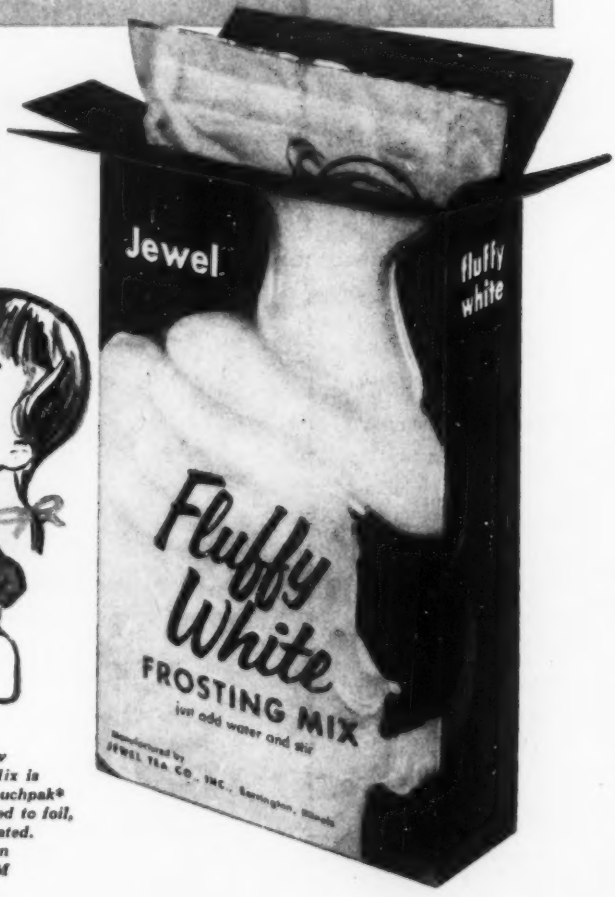
. . . tailored to run at high speed on automatic machines

. . . made to your own specifications, printed, waxed, coated, and laminated combinations of all types

. . . packaging materials that are made right, run right, and priced right

Hundreds of today's best-sellers benefit from Riegel's uniformly effective system of product protection. You can, too.
Write Riegel Paper Corporation, 260 Madison Avenue, New York 16.

Riegel
PROTECTIVE PACKAGING MATERIALS



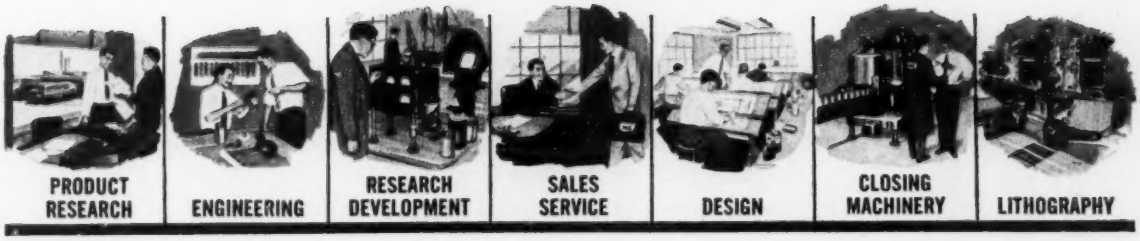
Jewel Tea Company's new Fluffy White Frosting Mix is protected by Riegel's Pouchpak . . . pouch paper laminated to foil, then printed and poly-coated. Packaged at high speed on Bartelt equipment. *TM*

YOUR PRODUCT

Combine keen and personal interest in your product and operation with experienced know how and you come up with NATIONAL CAN . . . the perfect combination for efficient packaging. Why not let us survey your needs — you'll see how much more you get from NATIONAL CAN.

the perfect combination

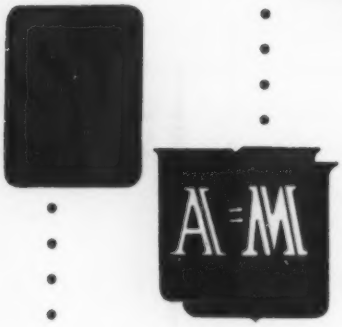
OUR PRODUCT



NATIONAL CAN CORPORATION

CHICAGO • NEW YORK • SAN FRANCISCO . . . PLANTS FROM COAST TO COAST

PROGRESS UNLIMITED!



through the consolidation of

SINCLAIR AND VALENTINE CO.

and

AMERICAN-MARIETTA COMPANY

Sinclair and Valentine Co., heretofore the world's largest independent manufacturer of printing inks, and American-Marietta Company have agreed to a consolidation. In the future, we will be known as the Sinclair and Valentine Division of American-Marietta Company. This consolidation, climaxing our steady growth and expansion over the past 65 years, marks another noteworthy step in an outstanding record of progress.

We believe the high standards of quality and economy that have always been axiomatic of S&V products, will now be complemented by this union, with even greater advantages for our customers and the Graphic Arts. With an increased capacity for research and development, we will have greater ability to continue to supply you with the finest products and service available.

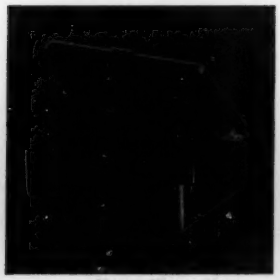
We are sure that this consolidation will open a new era—one marked by constant progress and achievement—and we are equally confident that these benefits will go beyond S&V and our valued customers, to the entire Graphic Arts Industry.

Sinclair and Valentine Co.

DIVISION OF AMERICAN-MARIETTA COMPANY

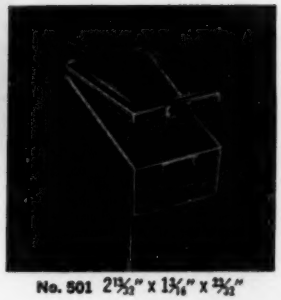
611 West 129th Street, New York 27, N. Y.

STRATEGIC SERVICE PROVIDED BY OVER 45 PLANTS

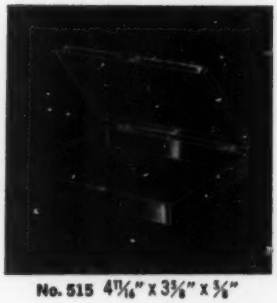


No. 14 3¾" x 4¹⁵⁄₁₆" x 1¼"

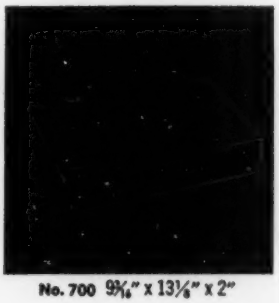
No. 505 4½" x 1¹⁵⁄₁₆" x ⅜"



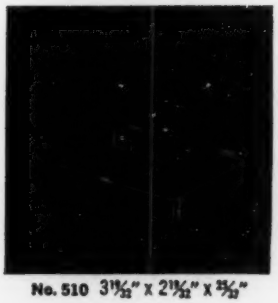
No. 501 2¹³⁄₃₂" x 1¾₆" x ²³⁄₃₂"



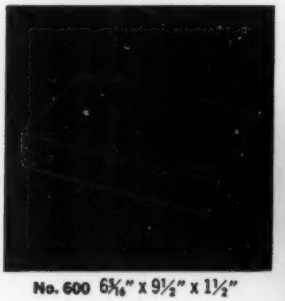
No. 515 4¹⁵⁄₁₆" x 3⅜" x ⅜"



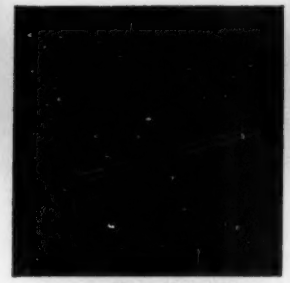
No. 700 9¾" x 13⅜" x 2"



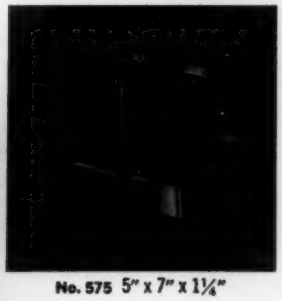
No. 510 3¹⁵⁄₃₂" x 2¹³⁄₃₂" x ²³⁄₃₂"



No. 600 6⅜" x 9½" x 1½"



No. 650 6⅜" x 9½" x 1½"



No. 575 5" x 7" x 1¼"

looking for a hinged-lid box?

TRI-STATE is your source for the world's largest assortment of Rigid Plastic Boxes all shapes...sizes...kinds!

TRI-STATE PLASTIC MOLDING CO Henderson 6, Ky., Valley 6-9061

Chicago: 209 S. State Street, Harrison 7-3630

Not just Good... but wonderful— Johnston's Pies in

REYNOLDS WRAP ALUMINUM PACKAGING

Here is an outstanding example of functional beauty in Reynolds Wrap Aluminum Packaging—a heat-and-serve container with a crimped-on lid handsomely gravure-printed right on its face. Shoppers are lured by that succulent slice of a Johnston's Pie. And they *believe* what they see—because the package *looks* so efficient. That's why they buy the first time. And they keep on buying, as mounting sales prove, because they recognize top quality...*protected quality*.

For Johnston's Pies, the efficiency of this packaging is important all the way from first processing to the customer's table. Aluminum's high thermal conductivity speeds original freezing and keeps the pie colder in retail cabinets. Another property—radiant heat reflection—keeps the pie colder in home-bound shopping bags. And conductivity, again, speeds baking in the consumer's oven. Meanwhile, the package protects against moisture gain or loss...against light rays that can damage pie crust...against air and odors.

Reynolds offers a complete packaging service...containers of all types, overwraps, liners, pouches...utilizing the versatility of aluminum alone and in all known combinations. New forms are constantly being devised to solve particular problems. Call the nearest Reynolds Sales Office or write to **Reynolds Metals Company**, General Sales Office, Louisville 1, Kentucky.

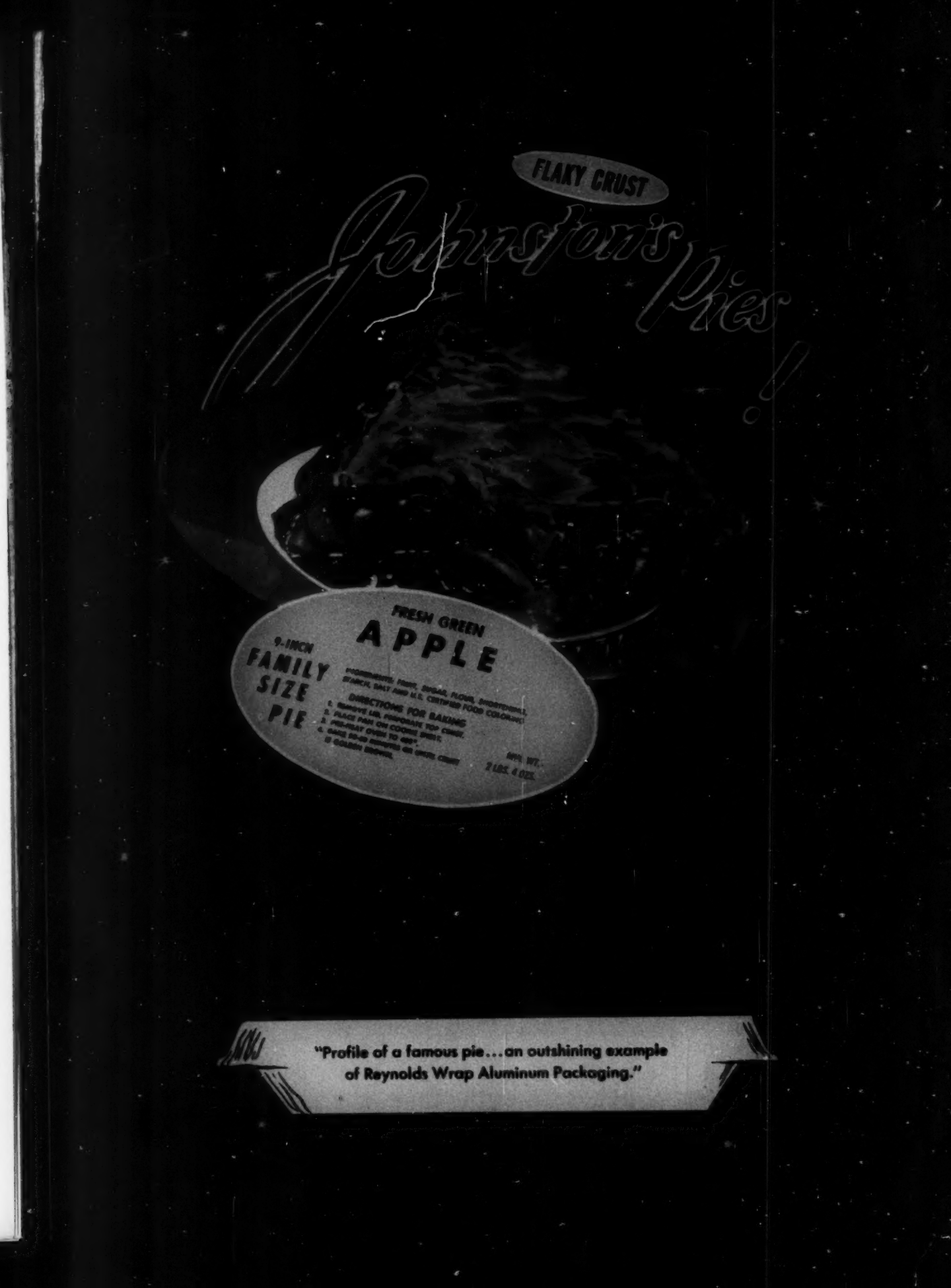
QUALITY PROTECTED WITH REYNOLDS WRAP ALUMINUM PACKAGING

THIS SEAL HELPS TELL THE JOHNSTON'S PIES STORY OF PROTECTED QUALITY

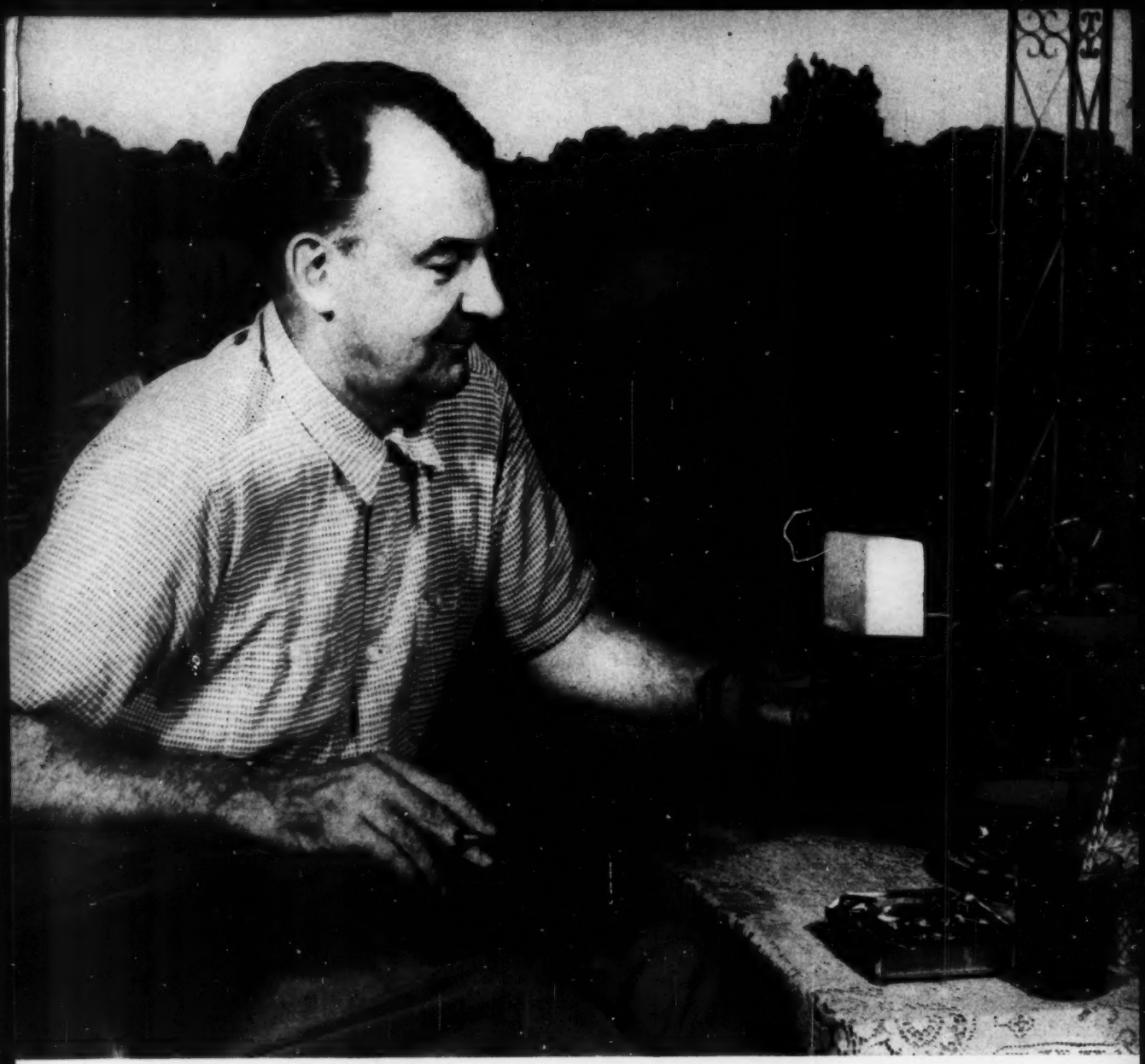
Powerfully promoted by national magazines, network TV, newspapers, spectaculars, this seal is used on more and more famous-brand products. Recent survey proves 8 out of 10 women know the Seal —6 out of 10 prefer products carrying it! Take advantage of this sales power!

REYNOLDS ALUMINUM

Watch Reynolds all-family television program "Disneyland," ABC-TV.



"Profile of a famous pie... an outshining example of Reynolds Wrap Aluminum Packaging."



cheesecake after hours

Some men just know how to relax. Take Bob Gibbs, for instance. All day long, he's out at his new, fully automatic injection molding plant down here in Henderson. But, come evening, you'll find him at home settling back by the big picture window to gaze at the blue grass and river boats paddling down the Ohio. A little Kentucky refreshment, a light snack of cheeses . . . and Bob is really living.

But, even when Bob relaxes he thinks packaging. A new cheese calls for a new plastic container. And it's a rare day when Bob doesn't come up with a brand new method of sealing in freshness and flavor with an innovation in automatically molded plastic packages. We're not ashamed to remind you: the first crystal-clear rigid plastic cheesebox was a product of Gibbs injection molding imagination.

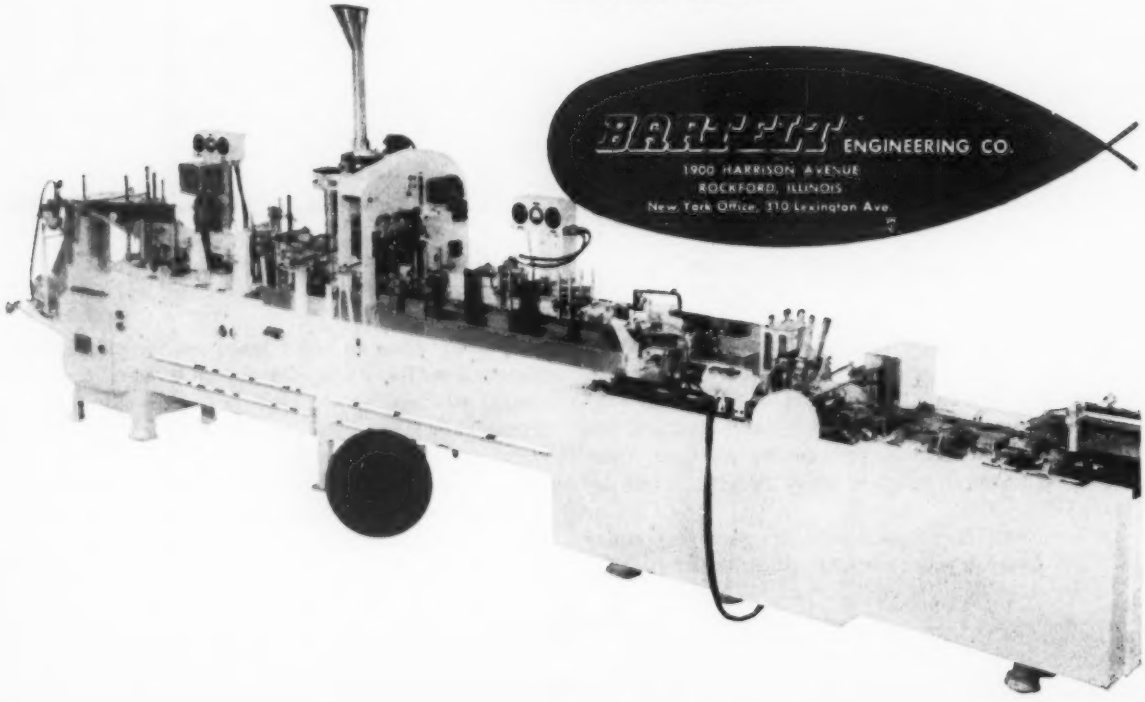
This is one of many reasons why keen-minded manufacturers come to Gibbs for the solution to their plastic packaging problems. Got a packaging bottleneck? Check with Bob Gibbs, he may not have all the answers – but he sure has a lot of them.

Automation makes Gibbs rigid plastics cost less

GIBBS *Automatic Moulding Corporation*
Henderson, Kentucky

MACHINES *for Creative Packaging"*

Modern marketing methods have demanded distinctive as well as utilitarian packages. Bartelt Automatic packaging equipment has always met these needs. A variety of pouches . . . gussetted bottom, multiple compartment, or fin seal, to mention a few . . . may be produced from any material that can be heat sealed. Carton sizes can vary widely and can be set to contain from one to four pouches each. Versatile automatic machinery can give you a package with real sales advantage, and save you money. A few of the great variety of packages that have been run on Bartelt lines are shown. Let us help you with your packaging problems. Write today for our latest literature.



Chunky Chocolate

goes to market in a CELLU-CRAFT package...

...and builds profitable sales volume!

PROBLEM: CHUNKY CHOCOLATE CORP. wished to introduce a package that would extend the sale of fast-selling Chunky Cuties into supermarket outlets. The package had to be transparent . . . bright enough to stand out from the crowd . . . provide sturdy protection for the chocolates, and the delicate flavors of the cashews, brazils and raisins.

SOLUTION: Cellu-Craft packaging engineers went to work to develop a package that would successfully solve all these problems.

RESULT: The proper cellophane film was carefully selected and treated to provide a cleanly produced, sparkling double wall cellophane package. This package increased sales, and eliminated spoilage and breakage.

RECOMMENDED: Put yourself in the *best* company! Have Cellu-Craft package development engineers work on *your* package problems . . . and watch sales grow!

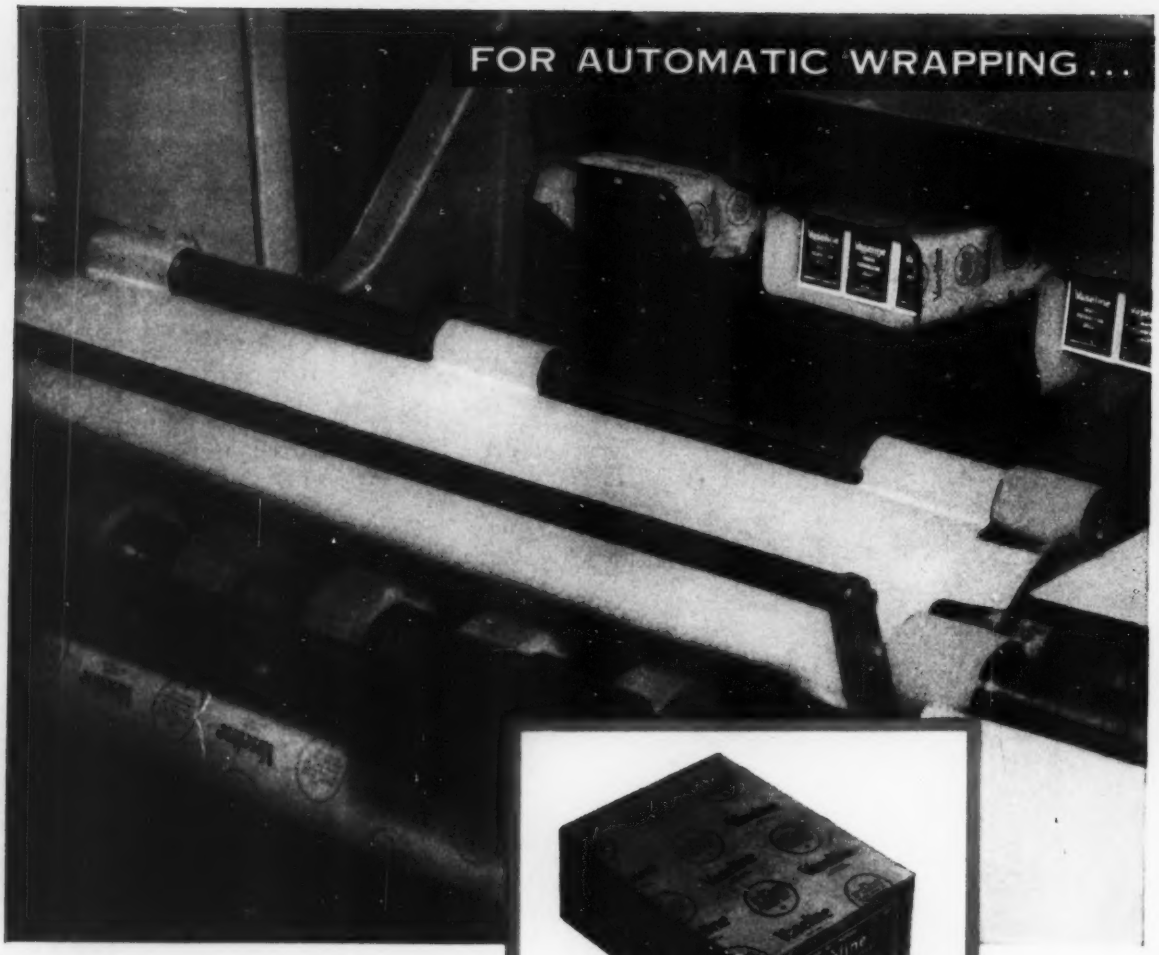
CELLU-CRAFT

PRODUCTS CORPORATION

Designers, Converters and Color Printers of Flexible Packaging Materials

General Offices & Plant: **1401 4th AVE., NEW HYDE PARK, N.Y., PRIMROSE 5-8000** *Sales Offices in principal cities*

PRINTED CELLOPHANE · POLYETHYLENE · PLIOFILM · FOIL · ACETATE · in ROLLS · BAGS · POUCHES · ENVELOPES · SHEETS



Vaseline
USES INTERNATIONAL GATOR-HIDE®

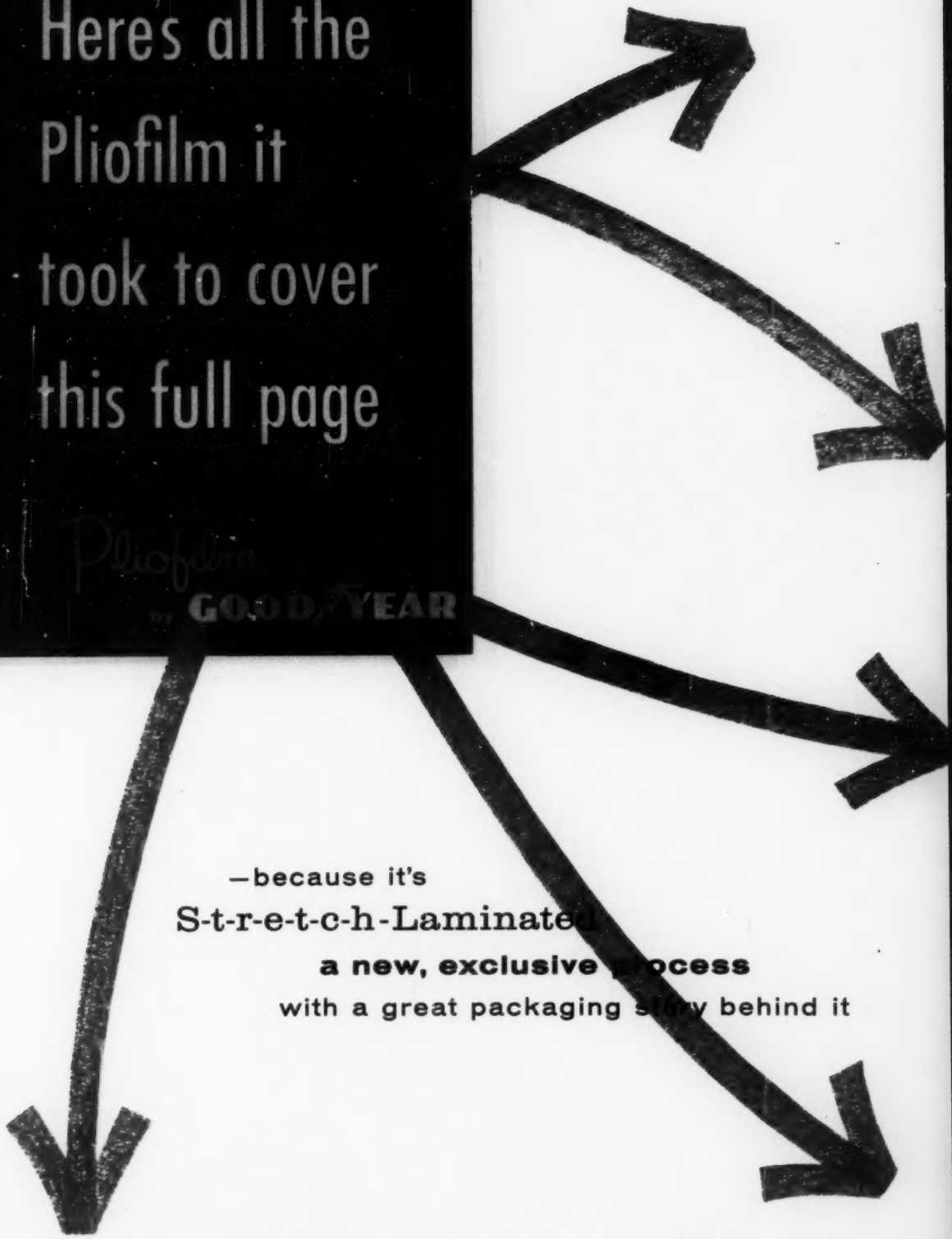
"wraps a world of products"

World's most widely used wrapping paper. Gator-Hide is rugged, tough. Especially built to take all automatic wrapping operations. Quality Controlled from forest to finished product.
If you have a problem in automatic wrapping, call us.

International Paper Company
SOUTHERN KRAFT DIVISION
220 East 42nd Street, New York 17, N.Y.

Here's all the Pliofilm it took to cover this full page

Pliofilm
by GOODYEAR



—because it's
S-t-r-e-t-c-h-Laminated
a new, exclusive process
with a great packaging story behind it

This sheet is an actual stretch lamination by the Arvey Corporation.

SEE OTHER SIDE

Pliofilm, a rubber hydrochloride—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

S-t-r-e-t-c-h Laminate

to paper! to foil! to board! to other film!

EASY TO PROCESS! EASY TO PROFIT BY!

Get 4 lbs. of work from 1 lb. of Pliofilm

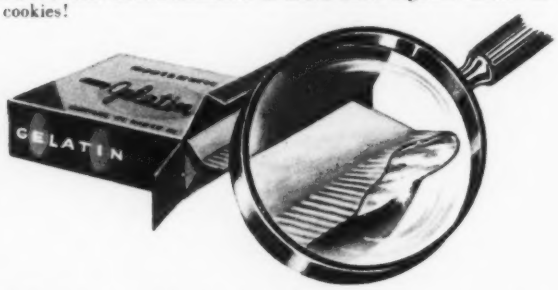
AND ALL THESE ADVANTAGES:

- Bolstered Strength
- Moistureproofness
- Grease Resistance
- No Pinholes
- Excellent Seals
- Good Gauge Control
- Quadruple Yield
- Low, Low Cost!

Good things are better in Pliofilm

GOODYEAR PACKAGING FILM

PLIOFILM stretch-laminated to board beats high-fat content of cookies!



PLIOFILM stretch-laminated to paper gives low-cost protection to close-margin items—excellent seal!

PLIOFILM stretch-laminated freezer wrap (for American Lace Paper Company) guards against freezer burn and puncturing!

THE GOODYEAR TIRE & RUBBER COMPANY
Packaging Films Dept. J-6418
Akron 16, Ohio

Sirs:

Please give me full information on how stretch laminating with PLIOFILM can give me low-cost packaging protection. The product I have in mind is _____

NAME _____

FIRM _____

CITY _____ STATE _____

CLIP THIS AND MAIL TODAY!

Let the Goodyear Packaging Engineer show you how to *increase* product protection at *reduced* package costs!

Stop label waste

...with Tickometer imprinting!

A product line with any range of styles, sizes, colors, etc. can run up a lot of labels—stealing a lot of stockroom space. Even the slightest product change makes labels as dead as autumn leaves, fit only for burning. If label wastage is one of your worries, you'll be glad to learn how the Tickometer can turn a trick in your label department!

• A lot of companies are limiting their labels stocks to basic forms and sizes . . . and using the Tickometer to imprint special designations—weight, size, color, grade, type, code, date, etc.

• The Tickometer imprints labels *as they are needed*, for the day's production, lot, batch, or special run—at speeds up to 1,000 a *minute*. Result is that label inventories are down, printing costs reduced, and wastage of unusable labels at a minimum.

• The Tickometer has an impression area of 2 3/16 by 7/8 inches, gives close register, prints on most weights and finishes of paper and light card stock, in sizes ranging from 1 by 2 inches to 15 by 15 inches (according to model size). Feeds and stacks automatically. Counts, too—and is so accurate that banks use it to count currency! Can make a predetermined count, record part or full totals, and has optional consecutive numbering.

• It's versatile in other ways as well . . . is used in plants and offices to mark, stamp, endorse, cancel or code coupons, sales and production slips, checks, cards, tags, tickets, forms, etc. —with big savings in time and effort.

• Can be rented or bought. PB has 302 service points, including 107 branch offices coast to coast. Call the nearest PB office for a demonstration, or send coupon for free illustrated booklet and case studies!

Pitney-Bowes

TICKOMETER

Imprinting & Counting Machine

Made by the originator of the postage meter . . . branch offices in 107 cities in U.S. and Canada

PITNEY-BOWES, INC.
4834 Walnut Street,
Stamford, Conn.

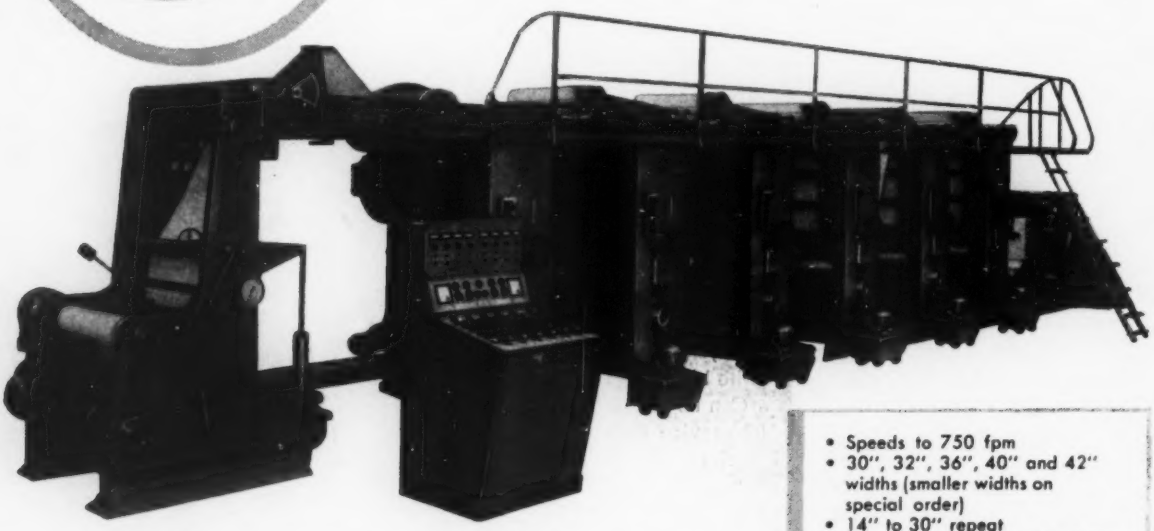
Send Tickometer booklet and case studies

Name _____

Address _____

Parsons & Whittemore Graphic presents the *new*

CERUTTI "Series R" Rotopackager ROTOGRAVURE PRESS



The precision press designed especially for the American converter of cellophane, foil, paper and light board

The gravure press of tomorrow here today... the *"Series R" Rotopackager* for finer, faster, more efficient printing of flexible packaging materials. Latest in the famous CERUTTI line of precision-engineered, custom-crafted gravure presses, this new press offers every modern feature to insure beautiful printing results and maximum profit potential.

Note the functional unit-style design of the *"Series R" Rotopackager* that combines add-on versatility with real operational efficiency. Completely open aisle space—3-feet between units and 6-feet headroom—allows maximum freedom of movement for operator when making adjustments or changing over to new jobs. Exclusive CERUTTI features that facilitate cylinder and ink replacement also make this great new press suitable for short as well as long runs.

Built for rigidity under continuous high-speed operation, the *"Series R" Rotopackager* features balanced one-piece unit-frame construction and horizontal overhead bridging of units for extra stability. Safe, easy access to top of press provided by ladder and catwalk.

The *"Series R" Rotopackager* is now available with any number of color stations (photograph shows 6-color press) and a wide selection of custom-matched accessory equipment, including rotary punches, slitters, sheeters, folders, etc.

For further details about the *"Series R" Rotopackager* and its advantages... write, wire or phone today.

- Speeds to 750 fpm
- 30", 32", 36", 40" and 42" widths (smaller widths on special order)
- 14" to 30" repeat
- Reversible units for back-printing
- Flexographic conversion units for imprinting and special effects
- Electronic duplex "turn-over" unwind with flying splice
- Non-stop duplex rewind... combining 2 center rewinds, 1 surface rewind in single compact unit
- High-velocity "Air-Knife" dryers for faster drying at lower temperatures. Extended dryers for special needs
- Length register control by either or both compensators and differential gear boxes
- Automatic web-break detectors in each unit
- Antifriction bearings used throughout
- All rotating parts dynamically balanced
- All gears cut to extremely close tolerances (.0005")—operate in sealed oil bath under constant-pressure lubrication

PARSONS & WHITTEMORE *Graphic Corporation*

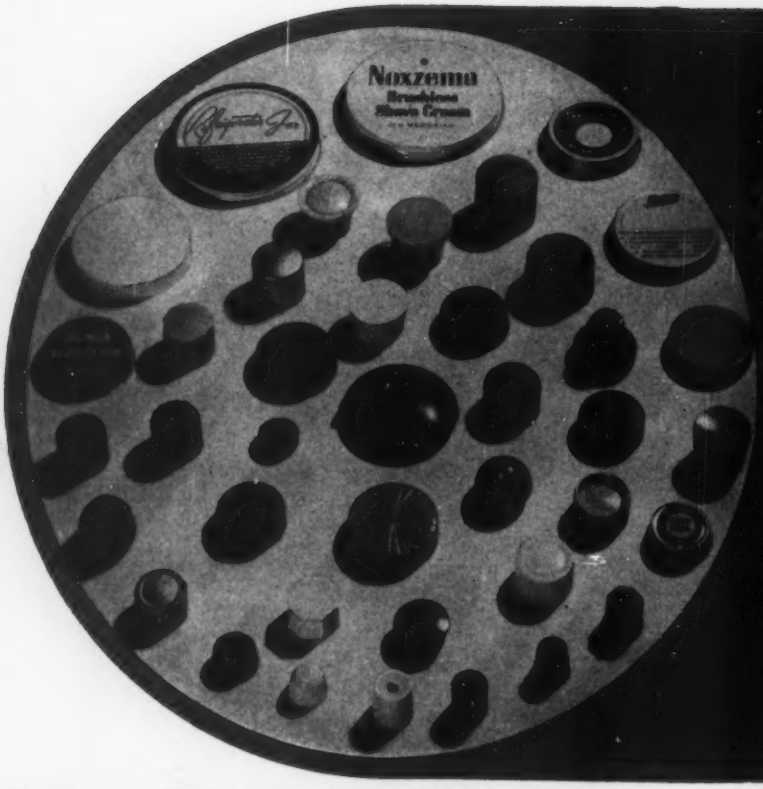
A wholly-owned subsidiary of Parsons & Whittemore Inc.

250 PARK AVENUE • NEW YORK 17, N. Y. / In Canada: Manton Bros. Ltd., Toronto

Stylour*

For luxury packaging STYLOUR —velour-coated super high-impact Styron® sheet holds its velvety-finish in vacuum forming even at the point of deepest draw. STYLOUR is available in brilliant colors in cotton or rayon . . . a wide range of thicknesses and sizes. Wherever a hard-wearing, decorative quality material is called for, use STYLOUR. Write for information and technical data.

*Trade Mark

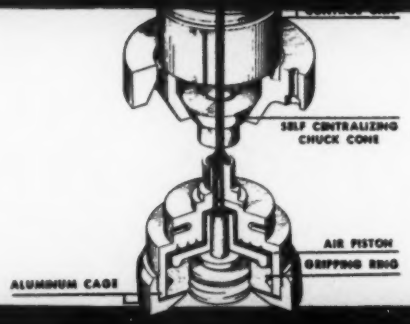


ALL IN A DAY'S WORK for PNEUMACAP

AMAZING ADAPTABILITY COUPLED WITH THE GENTLEST FEED AND TURN-ON ACTION KNOWN

Right from the time the caps are delivered to the hopper of the Sterling Cap Feeder on the PNEUMACAP, to the moment they're turned onto the container, they're handled with kid gloves. There's no churning or grinding in the feeding operation. Caps "dribble" easily into position, on call from the machine. No jamming to cause scratching or breakage.

Then the amazing air chuck takes over. Air pressure firmly squeezes the neoprene doughnut around the cap. Exactly conforming to any turn-on closure – metal, knurled, smooth, molded – it holds the cap in its no-scratch, no-slip grip. Full floating action allows chuck and cap to "find" container top. Choice of four chuck speeds to match caps from partial turn-on lug type to multi-turn long continuous thread closures. Machine is available in two, four, six and eight head models.



PNEUMATIC SCALE CORP., LTD., 82 Newport Ave., Quincy 71, Mass. *Also: New York; Chicago; Dallas; San Francisco; Los Angeles; Seattle; Leeds, England. Canadian Division: Delamere & Williams Company, Ltd., Toronto.*

PNEUMATIC ***Packaging and Bottling Equipment***

Your Marketing Problems Will Be Easier With Ridgelo Surfaces to Smooth the Way

Marketing is simply defined as "moving goods or services from conception to consumption." Fine coated boxboards, blanks, and specialty stocks simplify every phase of marketing . . . producing, packaging, and promoting. Those offering the *most* value for your money bear the Ridgelo brand name.

That's because advanced technology, unique equipment, and over half a century of experience are combined in Ridgelo coated products and coating services. The product line ranges from tough check stock for such things as tickets and tags, to exquisitely finished boxboards for show-piece gift cartons. The coating services range from moisture-proofing bag liners to beautifying Kraft liners for corrugated displays.

Ridgelo
CLAY COATED
BOX-BOARDS
+ plus
A CUSTOM COATING SERVICE FOR PACKAGERS

Samples and Suggestions Free on Request

#90 ULTRAGLOSS (glazed) • **#75 BRUSH FINISH** (silky smooth) • **CUSTOM COATED** (for lacquer or varnish)

STANDARD COATED (fine machine coating) • **METALLIC COATED** (bright, foil-like) • **POLYETHYLENE COATED** (protective barriers)

LOWE PAPER COMPANY • Ridgefield, N. J.

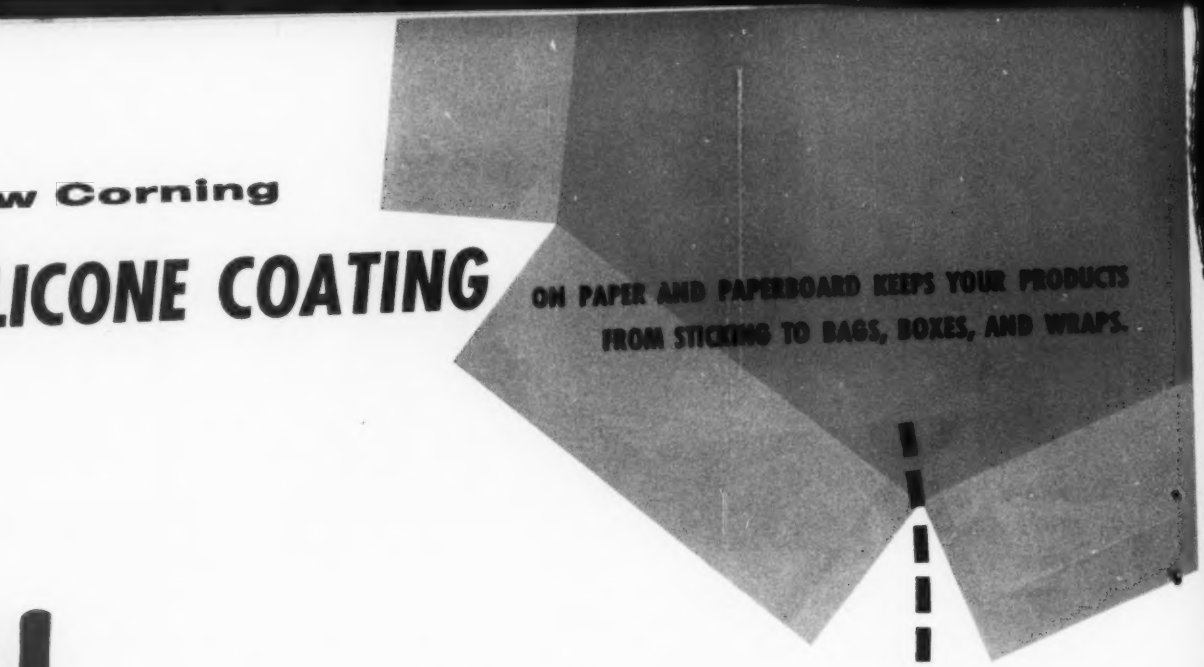
An Independent Mill—Serving Industry Since 1906

Representatives • Detroit—Joseph P. Giroux • Los Angeles—Norman A. Buist • Philadelphia—Philip Rudolph & Son, Inc. • St. Louis—A. E. Kellogg

Dow Corning

SILICONE COATING

ON PAPER AND PAPERBOARD KEEPS YOUR PRODUCTS FROM STICKING TO BAGS, BOXES, AND WRAPS.



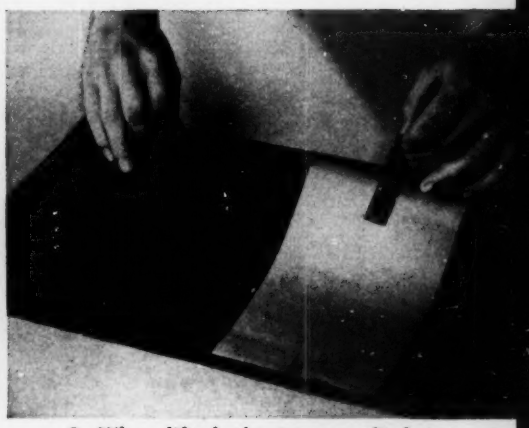
New "EASY OUT" FOR

Anyone packaging sticky products in paper or paperboard containers can now offer their customers easier "release" with a Dow Corning SILICONE COATING. This new paper coating provides a surface to which almost nothing will stick. The gummiest of materials . . . asphalt, raw rubber, candy, glue, gums, virtually any adhesive mass . . . can be easily emptied from silicone coated packages.

This means you can give your customers a major benefit at little or no extra cost to you . . . they get all the product out of each package . . . quickly, cleanly, effortlessly.

SILICONE COATING is easily applied at the mill or by the converter to any packaging stock—from glassine to boxboard. Bags, boxes, cartons, wrappers, interleaving sheets . . . all can be supplied with the new Dow Corning anti-adhesive SILICONE COATING.

1. **Both samples shown are of the same paper. Piece at left has the new SILICONE COATING. Other sample is untreated. Pressure-sensitive tape is pressed firmly on each.**



2. **When lifted, the tape applied to silicone coated paper flicks free without clinging. Tape applied to untreated paper sticks tight. Make your own test.**

ALL STICKY PRODUCTS

Silicones Don't Contaminate — Industrial products, such as rubber and asphalt, are not contaminated in the least by the new SILICONE COATING. Nor are consumer goods, such as candy and sweet rolls, affected by the "food grade" coating specified for food packaging or wrapping.

No Undesirable Effect on Paper . . Dow Corning's new SILICONE COATING is colorless, odorless, and in no way alters the body or physical strength of paper or paperboard.

Coating Doesn't Migrate — SILICONE COATING remains on the surface to which it's applied . . . won't transfer through to the other surface, or to the product, even under heat and pressure.

Costs No More — For most applications, the cost of a Dow Corning SILICONE COATING is comparable to conventional non-adhesive coatings. And, because SILICONE COATING adds such little weight, freight costs are less than those for conventionally coated papers.

Permanent — The SILICONE COATING is there to stay and it doesn't come off or deteriorate. You can store silicone coated papers indefinitely . . . or even re-use them.

Water Repellent — The Dow Corning SILICONE COATING is inherently water-repellent and imparts this characteristic to any paper or board to which it's applied.

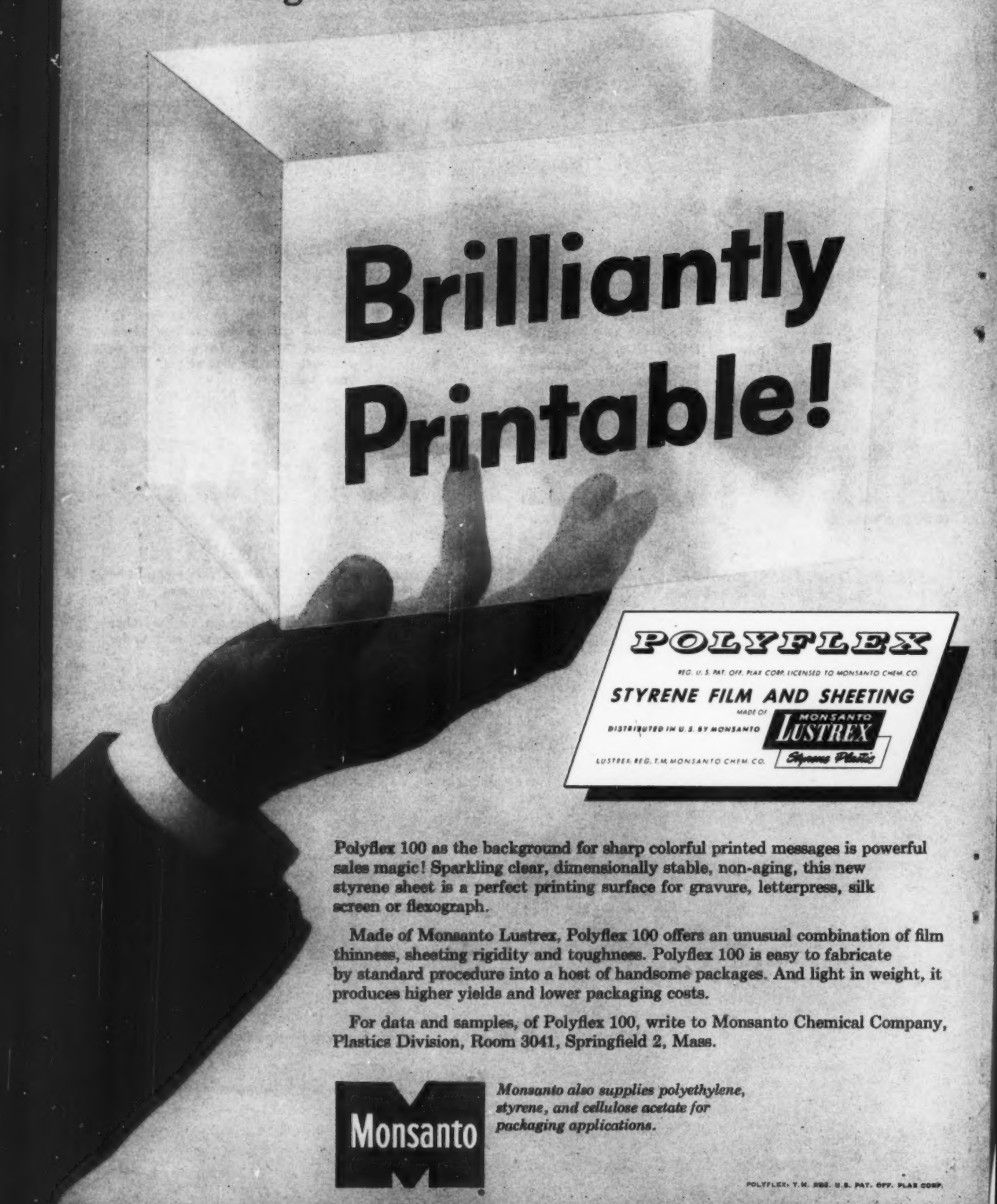
Free Samples ***For full information, samples of silicone coated papers, and a list of suppliers, WRITE DEPT. 7322***

first in silicones

Dow Corning CORPORATION
MIDLAND, MICHIGAN

ATLANTA BOSTON CHICAGO CLEVELAND DALLAS DETROIT LOS ANGELES NEW YORK WASHINGTON, D. C.
CANADA: DOW CORNING SILICONES LTD., TORONTO GREAT BRITAIN: MIDLAND SILICONES LTD LONDON FRANCE: ST GOBAIN, PARIS

clear...tough...low cost..



Brilliantly Printable!

POLYFLEX

REG. U. S. PAT. OFF. PLAX CORP. LICENSED TO MONSANTO CHEM. CO.

STYRENE FILM AND SHEETING

MADE OF MONSANTO LUSTREX Styrene Plastics

DISTRIBUTED IN U. S. BY MONSANTO

LUSTREX, REG. T.M. MONSANTO CHEM. CO.

Polyflex 100 as the background for sharp colorful printed messages is powerful sales magic! Sparkling clear, dimensionally stable, non-aging, this new styrene sheet is a perfect printing surface for gravure, letterpress, silk screen or flexograph.

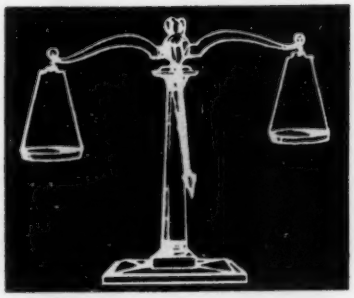
Made of Monsanto Lustrex, Polyflex 100 offers an unusual combination of film thinness, sheeting rigidity and toughness. Polyflex 100 is easy to fabricate by standard procedure into a host of handsome packages. And light in weight, it produces higher yields and lower packaging costs.

For data and samples, of Polyflex 100, write to Monsanto Chemical Company, Plastics Division, Room 3041, Springfield 2, Mass.

Monsanto

Monsanto also supplies polyethylene, styrene, and cellulose acetate for packaging applications.

POLYFLEX: T.M. REG. U.S. PAT. OFF. PLAX CORP.



WRIGHT LEADS IN WEIGHING PROGRESS

Beam scales and volumetric filling were used by Wright as early as 1893 in the first successful automatic machines for packaging smoking tobacco.

When conventional weighers failed to meet the requirements of potato chip makers, Wright developed a more sensitive, gentler, and faster method. Hy-Tra-Lec® utilizes the principles of positive displacement triggered by electricity. Now also widely used for packaging candies, crackers, cookies, pretzels, frozen foods, and similar products.

Wright leadership broke new barriers in 1957 via electronics. Meat packers use the *Wrightronic* electronic weigher in the packaging of sliced bacon. Additional applications in other fields are on the way.

Constant research enables Wright customers to keep pace with automation and changing packaging trends. You can plan ahead with Wright. Your inquiry is invited.

WRIGHT MACHINERY COMPANY
DIVISION OF SPERRY RAND CORPORATION
DURHAM, NORTH CAROLINA

DISTRICT OFFICES: Ridgefield, N. J.; LaGrange, Ill. Dallas, Texas; Durham, N. C.

CANADA: Sperry Gyroscope Ottawa Limited Ottawa, Ontario, Canada

EXPORT DEPARTMENT: 13 East 40th Street, New York 16, N. Y. USA Cables: ARLAB

Ask the Purser?

The Purser could tell how much he appreciated aluminum foil—could tell you of its unfailing protection—of cheese and tobacco moist and fresh after weeks of dry, hot weather—of foil packed goods, crisp and safe when the bulkheads ran with moisture.

The Purser knows by experience that foil packaging is efficient and he buys for full protection against all hazards.

Star Foil is backed by the most modern equipment—Technical and Laboratory services are handled by men with 25 years experience of research in foil, coatings, inks and laminates.

This equipment is at your service.

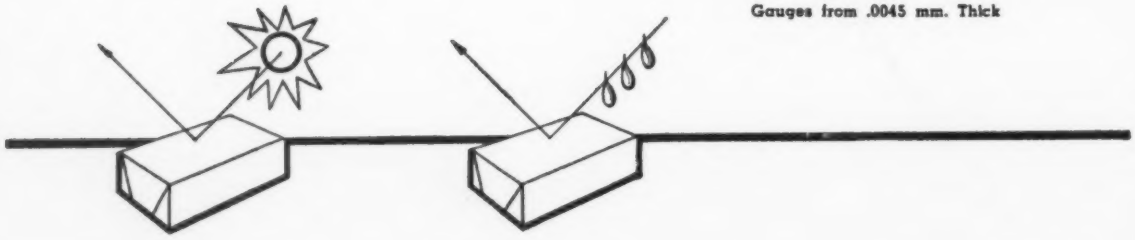
Star Foil

from

EUROPE'S MOST MODERN FOIL MILLS

Widths Up To 40¼"

Gauges from .0045 mm. Thick

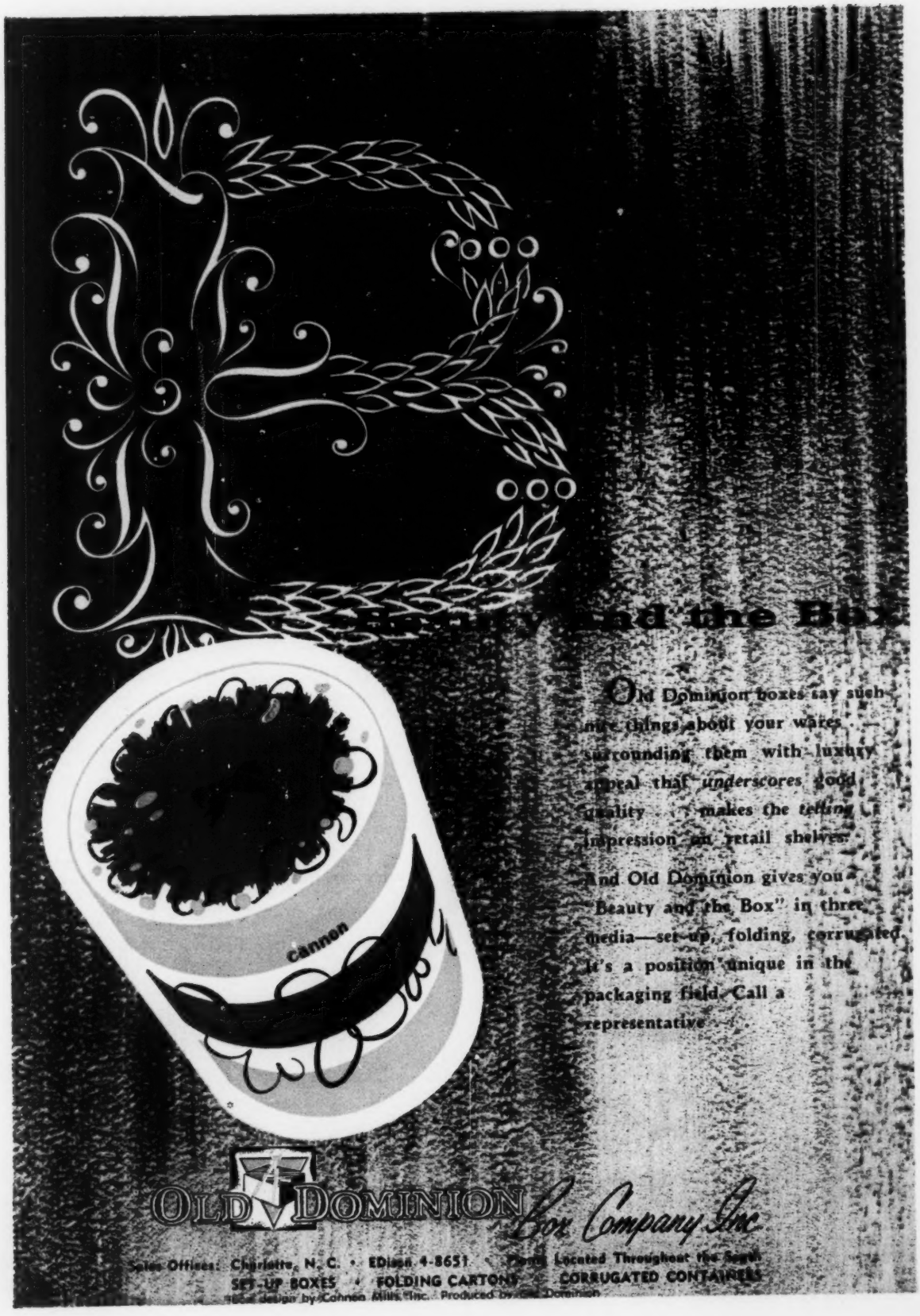


STAR ALUMINIUM COMPANY LIMITED

WOLVERHAMPTON & BRIDGNORTH, ENGLAND.

AGENTS: NORCA CORPORATION, EMPIRE STATE BUILDING, 350 FIFTH AVENUE, NEW YORK 1, N.Y.

CABLE NORCACORPO, NEW YORK .·. TELEPHONE LONGACRE 4-7225-6-7-8-9


nd the Box
Old Dominion boxes say such nice things about your wares . . . surrounding them with luxury appeal that *underscores* good quality . . . makes the *telling* impression on retail shelves.
And Old Dominion gives you "Beauty and the Box" in three media—set-up, folding, corrugated. It's a position unique in the packaging field. Call a representative . . .
cannon
OLD DOMINION Box Company Inc.
Sales Offices: Charlotte, N. C. • EDison 4-8631 Plants Located Throughout the South
SET-UP BOXES • FOLDING CARTONS • CORRUGATED CONTAINERS

Announcing

2 NEW DEVELOPMENTS by: Manhattan

a new name...

MANHATTAN ADHESIVES CORPORATION

To conform with the broadening of our line which has grown through the years to include almost every type of adhesive . . . those made from animal glues, gelatines, starches, dextrines, resins, latices, rubber, gums, casein etc. — we have a new, all-inclusive name — Manhattan Adhesives Corporation.

a new plant...

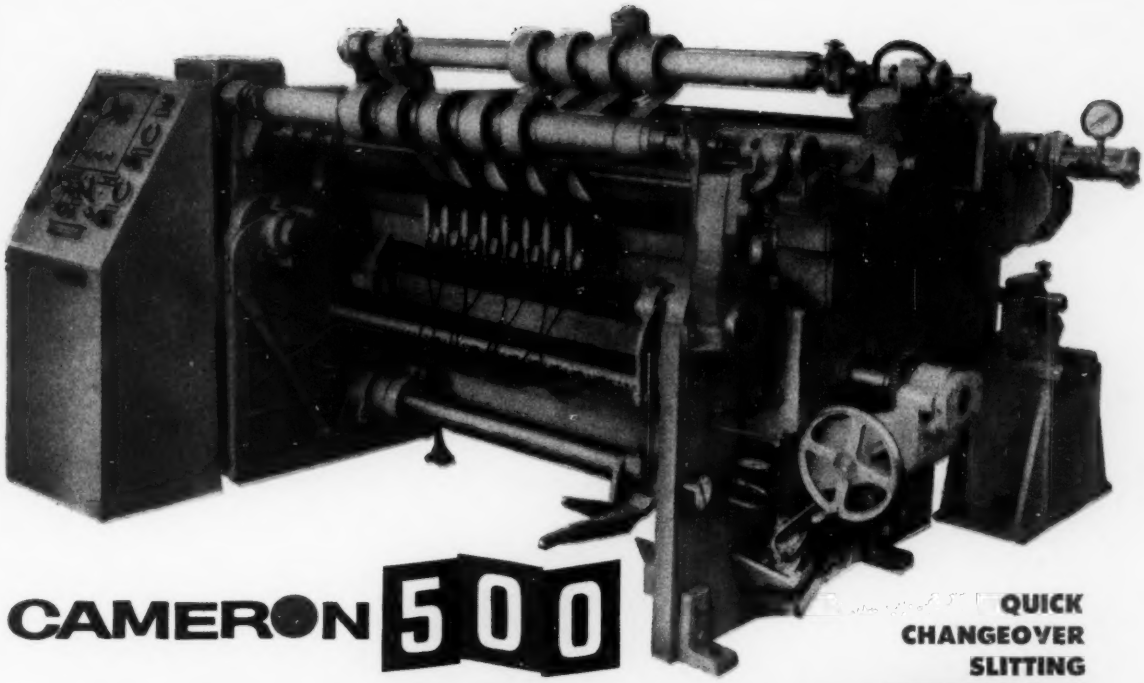
for "PACE" BRAND
POLYVINYL ACETATE EMULSIONS
POLYVINYL ACETATE SOLUTIONS

To assure a continuity of quality, service, and uniformity, we manufacture many of the basic materials used in our products. We have just completed our new installation for the manufacture and sale of Polyvinyl Acetate Emulsions. We are equipped to make products to meet your specific requirements.

LION BRAND ADHESIVES

Half-a-century of "know-how"

MANHATTAN ADHESIVES CORPORATION
Lion Brand Adhesives
Factories at 42nd GREENPOINT AVENUE BROOKLYN N.Y.
5901 SOUTH LOWE AVENUE CHICAGO ILL



CAMERON 500

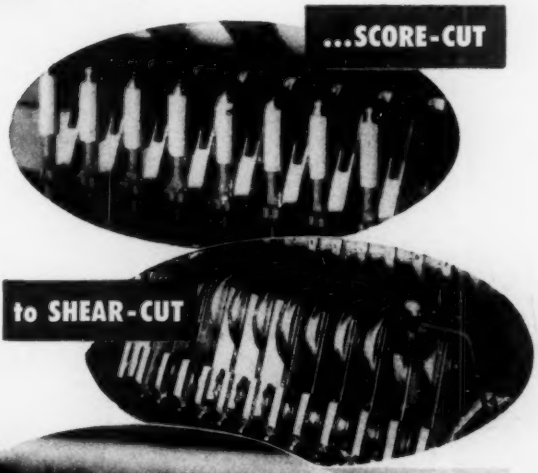
QUICK CHANGEOVER SLITTING

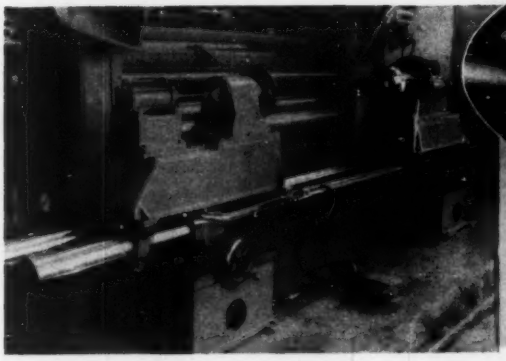
VERSATILITY FOR HANDLING ALL TYPES OF FILMS, FOILS, PAPERS AND LAMINATES...

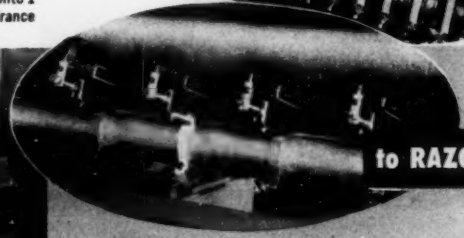
For the first time in one machine Cameron 500 combines shear-cut, pneumatic score-cut, and razor-type slitting. Instant changeover adapts the 500 to the slitting method best suited to various materials. Cameron Sealcut® slitting units may also be used for heat sealing the strip edges of fusible fabrics and plastics. Speeds up to 2000 fpm*. Widths up to 62". Rewound roll diameters up to 20". Write, wire or telephone for complete information on Cameron 500.

*Speed depends on width, number of cuts and characteristics of material.

Cameron Machine Company, 61 Poplar St., Brooklyn 1, N.Y.
Canada: Cameron Machine Co. of Canada, Ltd., Royal Bank Bldg., Toronto 1
France: Batignolles-Chatillon, 5 Rue De Monttessuy, Paris (7e) France







Also available...oscillating razor-cut...saves over 50% in cutter blade maintenance and replacement costs.

◀ NEW CAMERON SHAFTLESS BACKSTAND (optional). Adjusts easily and quickly to parent rolls of various widths of any material. Minimizes downtime between roll changes.

SEE OTHER EXCLUSIVE FEATURES! SEND FOR BULLETIN 1050

BUILT BY CAMERON'S team of specialists

50 years devoted exclusively to the design and manufacture of slitting and roll winding equipment.

AA-342

"J&L phosphatizes ***in-the-round?***
. . . you mean after the shell
is formed and welded?"

"Sure, how else can you properly
phosphatize the ***seam?***
J&L gives us a 100% job!"

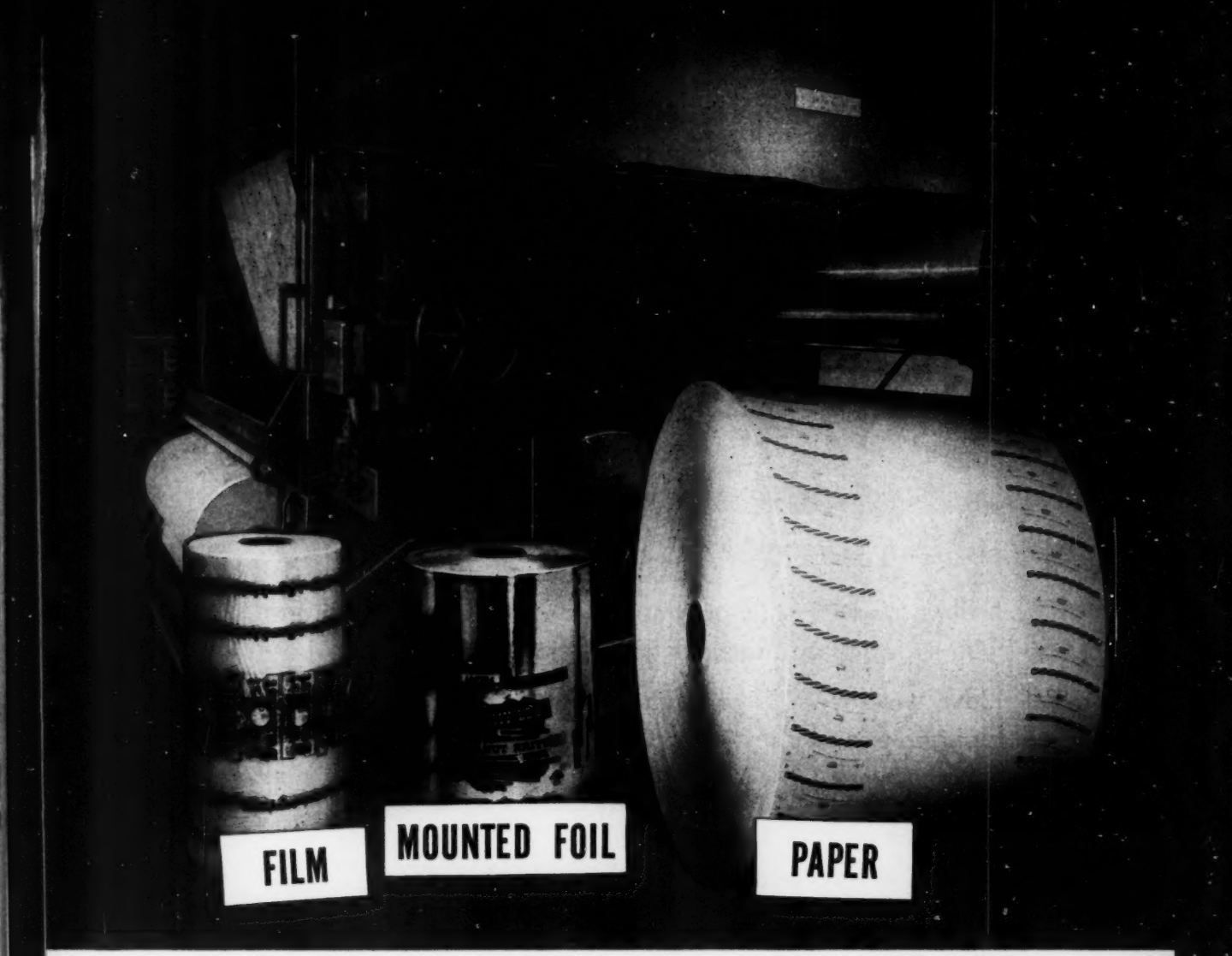
- J&L specialists, backed up by modern research, are ready to consult on your toughest packaging problems.
- J&L, an integrated steel producer, controls container quality from start to finish.
- J&L steel containers provide engineered packaging for dependable transportation and safe storage.
- Precise fabrication and correct specification of fittings and closures.
- Prompt dependable delivery from nine plants.

Call your nearest J&L Container Division office for recommendations on your packaging problems. Or write direct to the Container Division, 405 Lexington Avenue, New York 17, N. Y.

STEEL

Jones & Laughlin

...a great name in steel



Whatever you print . . . however wide . . .

you want QUALITY . . . SPEED . . . ECONOMY

This is the "Rule of 3" for meeting modern converting competition. And, Kidder has the equipment to help you do it — hour after hour, day after day, month after month. Kidder Flexographic presses are *preferred* because they perform reliably.

And there's a Kidder for your set-up:

FILMPRINTER® for 30″ and 33″ widths.

HEAVY DUTY FILMPRINTER for 30″, 42″ and 52″.

STANDARD FLEXOPRINTER for paper and board for 30″, 42″ and 52″.

HEAVY DUTY FLEXOPRINTER for paper and board for 42″, 52″ and 65″.

NOTE: All printers in four and six color frames.

For more information write KIDDER PRESS COMPANY, INC. — Main Office and Plant, Dover, N. H. *Eastern Sales Office* — Kidder Press Company, Inc., Empire State Bldg., 350 Fifth Avenue, New York 1, New York.

Make more profits with

Kidder

FLEXOGRAPHIC PRESSES

Mid-West Representative: **GIBBS-BROWER CO., INC.,** 400 Washington Building, Madison 3, Wisconsin

West Coast Representative: **BOJANOWER MACHINERY SERVICE CORP.,** 5270 E. Washington Blvd., Los Angeles 22, Calif.

Important new developments in...

Du Pont K-Type cellophane

▷ Recently reduced price

▶ New thinner gauge

K-films are Du Pont's polymer-coated types of cellophane with superior appearance, protection and durability.

Now, two recent developments make Du Pont K-Type cellophane even better value to all transparent film users . . .

- **Prices on DuPont K-202 and K-203 were reduced almost 6% on August 26.**
- **300-gauge K-203—a higher-yield film offering the same outstanding advantages as 450-gauge K-films—is now commercially available.**

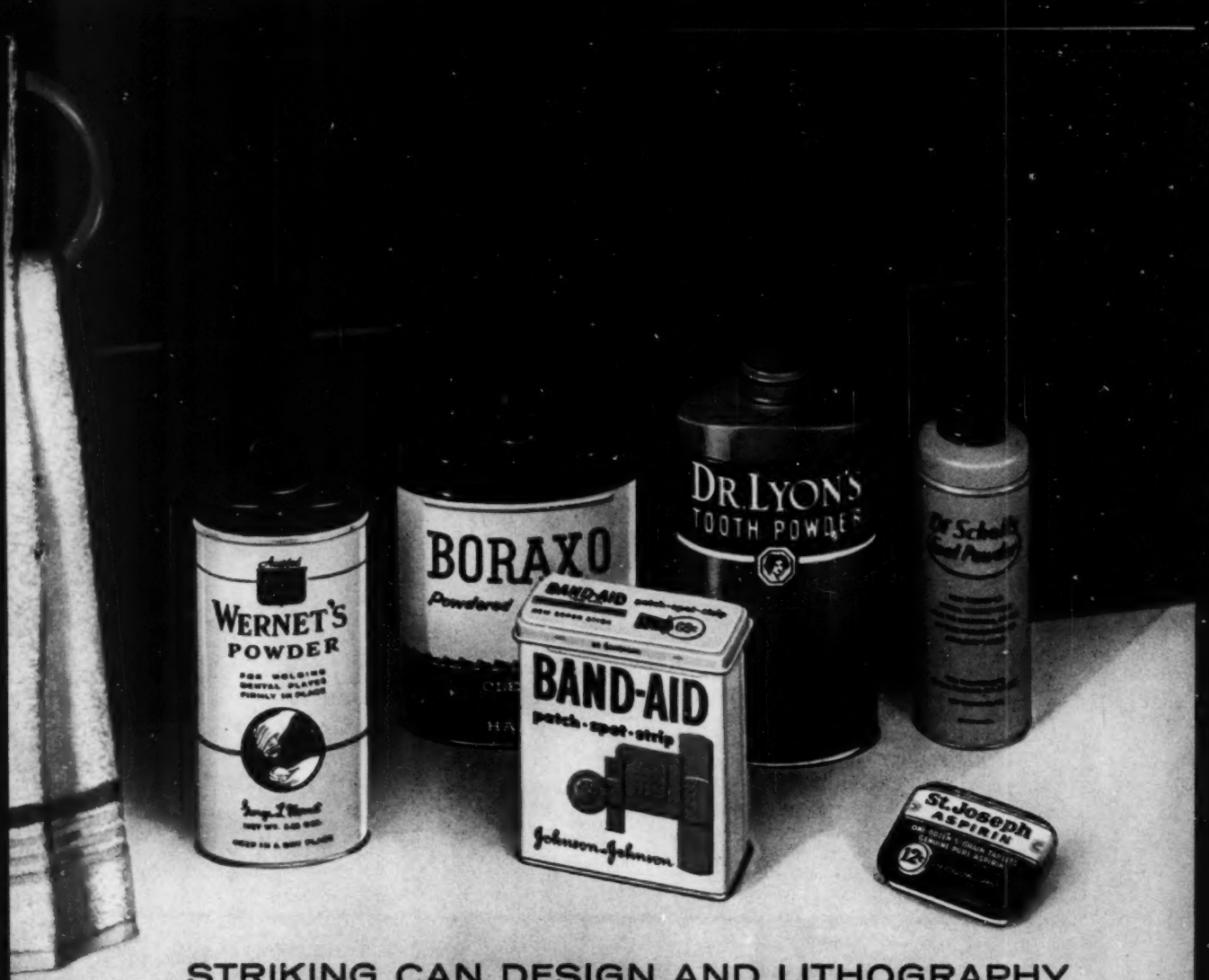
With these two new factors in mind, wouldn't it be wise to investigate the greatest improvement in cellophane since the development of moistureproof film? Get in touch with your Du Pont Representative or Authorized Converter of Du Pont cellophane today. Or write:

E. I. DU PONT DE NEMOURS & CO. (INC.)
FILM DEPARTMENT, WILMINGTON 98, DELAWARE

DU PONT cellophane

DU PONT

BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY



STRIKING CAN DESIGN AND LITHOGRAPHY GIVE SALES MESSAGES EXTRA POWER . . .

Certain products, like those shown above, need plenty of room for displaying product information to its best advantage. That's why these famous brands (among many others) chose Continental's specialty cans as their packages. There's such a wide variety of sizes and shapes, that the *perfect* choice is easy, no matter what the product. As for lithography . . . well, there aren't many who can touch the *Continental* craftsmen. Why not put your product in one of our specialty cans? You can't do any better.

Continuous message... Continuous design

No matter how the can is turned, there's something to stop the eye and help stimulate that impulse purchase. Choose from a rainbow variety of unusual and provocative lithography designs.

QUALITY Continental SERVICE

CONTINENTAL CAN COMPANY

Eastern Division: 100 E. 42nd St., New York 17
Central Division: 135 So. La Salle St., Chicago 3
Pacific Division: Russ Building, San Francisco 4

well-known national concern reports:

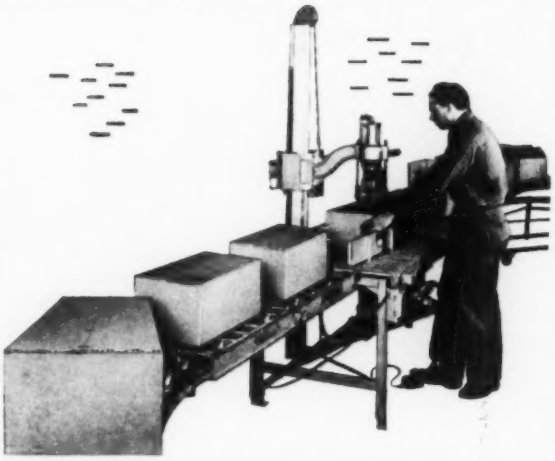
INTERNATIONAL DUAL STAPLER Saves $7378.00 per year over taping on Carton-Closing Costs

The cost-comparison chart shown here tells the winning story for the International Staple way of closing cartons from the outside *after* they're filled.

The accurate time study maintained by this national organization has proved once again the superiority of International stapling over taping, both in lower material costs and in labor savings. *Closing your cartons by stapling is faster and less expensive* than taping.

The International Dual Stapler used in this test is capable of stapling hundreds of cartons per hour, closing both tops and bottoms simultaneously. This Stapler, like all the Staplers in the International line (from hand operation to automatic twin-end models), have many other advantages, too! For example, they make a neater carton closure . . . save the storage space needed for set-up cartons, meet the safety requirements of Rule 41, and save you considerable time and money.

See your International Man soon for other interesting cost-performance stories.



SAVINGS REPORT: on INTERNATIONAL STAPLING vs TAPING

(Based on average packing rate of 9608 cartons per mo., for 40 and 50 lb. cartons.)

	TAPING	INTERNATIONAL STAPLING	SAVINGS
Yearly Cost of Materials	$1968.00	$880.00	$1088.00
Yearly Cost of Labor (based on same M/H Rate)	$10,056.00	$3766.00	$6290.00

TOTAL INTERNATIONAL SAVINGS $7378.00

INTERNATIONAL Gold Crown

STEEL STAPLES SEAL SECURELY

International Staplers

INTERNATIONAL STAPLE & MACHINE COMPANY

ORIGINATORS OF CARTON CLOSING STAPLERS

810 EAST HERRIN ST. HERRIN, ILLINOIS

UNDER THE THILCO BIG TOP

New paper machine boosts Thilco capacity, improves converting quality

FEATURING A COLOSSAL
NEW PAPERMAKING GIANT
The birth of our seventh paper machine boosts our productive capacity and greatly improves converting paper finish. A BIG BABY—this 147-inch trim Yankee Fourdrinier boasts a 15 foot diameter drier which is the largest of its kind in North America. It helps to account for the superior high glazed finish and excellent converting qualities these specialties and base stock papers provide.
WIDE VARIETY OF
CONVERTER BASE STOCKS
BETTER SERVICE
TO CONVERTERS
Thilco's seven paper machines provide greater opportunities for faster deliveries of specific grades with flexible machine fills in 90, 100, 120 and 147-inch widths. Consult the Thilco representative best located to serve you for complete information and samples—or write direct to the mill.

THILCO
Functional Papers

NEW YORK • CHICAGO • DETROIT • CINCINNATI

OUR "plant-to-you" service plus our production flexibility enable us to supply you quickly with quality foil in widths for all your packaging needs, as they arise—keeping your inventory to a minimum.

Let us demonstrate this fast, flexible service to you.

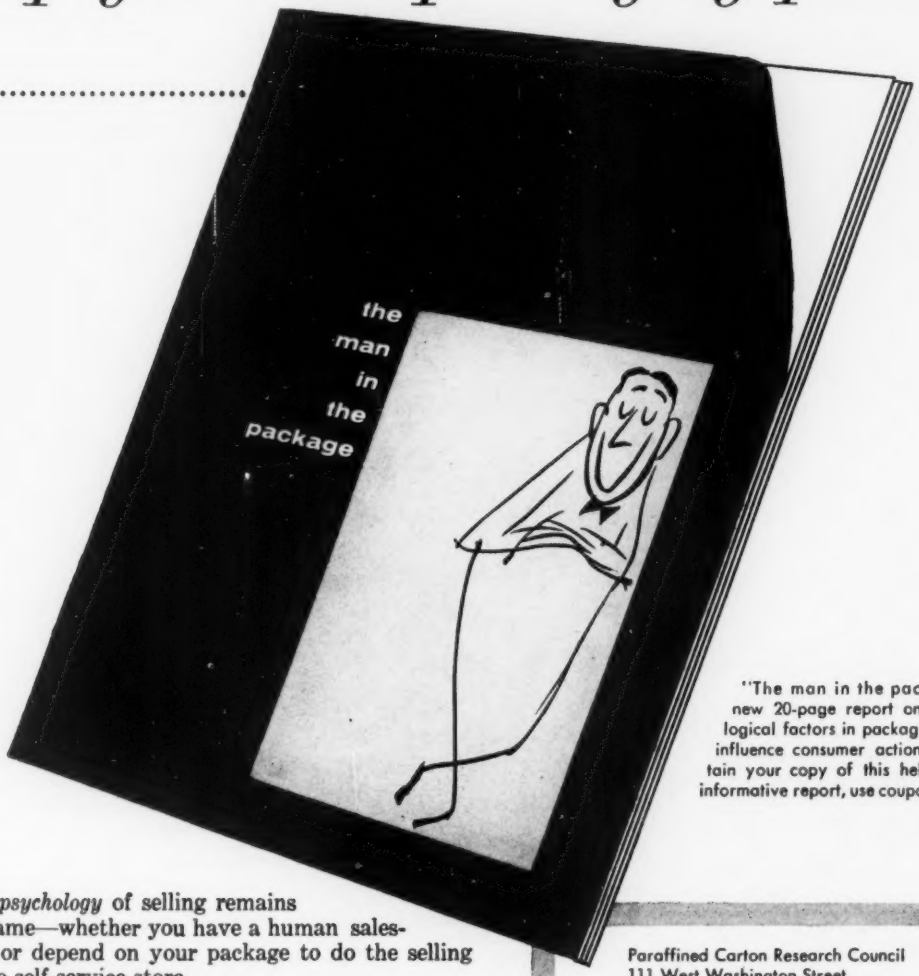
Write for booklet, "Meet Cochran Foil", 1430 South 13th St., Louisville 10, Ky., Dept. F-10

Cochran FOIL COMPANY
Incorporated

Plain, Laminated, Colored and Coated Foil for Packaging and Industrial Applications • Coiled Aluminum Sheet

FACILITIES AS FLEXIBLE AS FOIL ITSELF

This **PSYCHOLOGIST'S REPORT** *can help you solve packaging problems*



"The man in the package"—new 20-page report on psychological factors in packaging which influence consumer action. To obtain your copy of this helpful and informative report, use coupon below.

The *psychology* of selling remains the same—whether you have a human salesman or depend on your package to do the selling in the self-service store.

Psychological selling factors are now dealt with *directly* in terms of packaging by Dr. Ernest Dichter of the Institute of Motivational Research.

Dr. Dichter's newest study, made in cooperation with the Paraffined Research Council, is now available to you at no cost.

This is the third study recently released by the Council. Other studies are "What Packaging Really Means" and "Round or Square" (a study of consumer preferences in ice cream cartons). All three studies may be had for the asking. Just send coupon.

member companies:

BLOOMER BROS. COMPANY • BURD & FLETCHER COMPANY • CHICAGO CARTON COMPANY • CONTAINER CORPORATION OF AMERICA • MARATHON CORPORATION • MICHIGAN CARTON COMPANY • POLLOCK PAPER CORPORATION • THE RICHARDSON TAYLOR-GLOBE CORPORATION • SUTHERLAND PAPER COMPANY • WALDORF PAPER PRODUCTS COMPANY

Paraffined Carton Research Council DB-76
111 West Washington Street
Chicago 2, Illinois

Please send me a copy of your latest report. "The man in the package."

Name.....

Company.....

Address.....

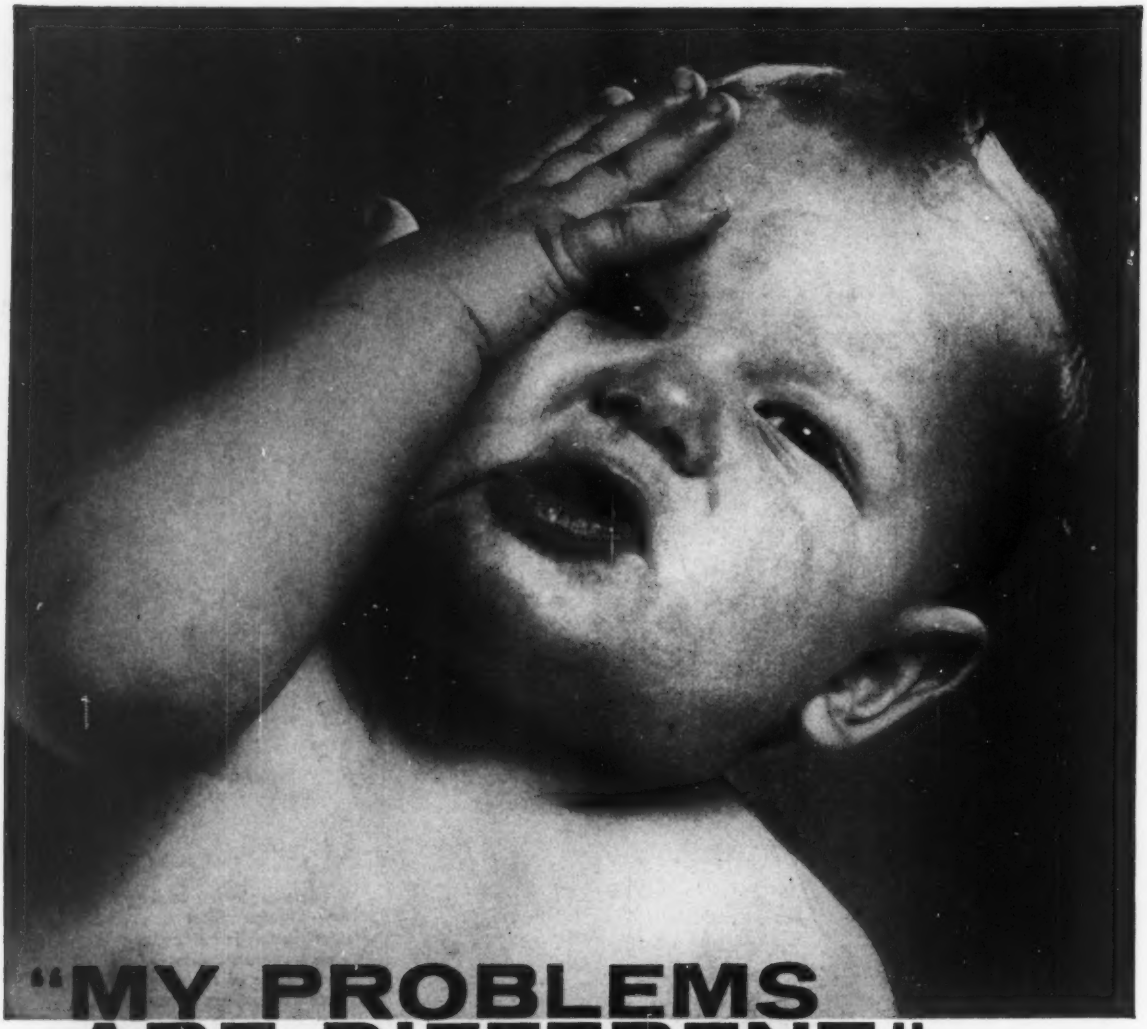
City.....

Zone.....

State.....

I would also like copies of: "What Packaging Really Means" ( ) and "Round or Square"( ).

PARAFFINED CARTON RESEARCH COUNCIL



"MY PROBLEMS ARE DIFFERENT"

Every National Container customer is different—yet all have a common problem: How to best protect their wares in transit. And, difficult as each problem seems, National's designers always come up with a sound—and economical — solution. • It might, for instance, be to develop corrugated shipping containers for adorable but highly perishable baby chicks. Or for beautiful but heavy and bulky pianos. Or for foods, beverages, appliances or any of hunderds of other products. At National, it's all part of the day's work—and each problem is solved swiftly and efficiently. • Our roster of satisfied customers includes hundreds of both large and small companies who find it pays to deal with one of the world's largest corrugated container manufacturers. They count on National for speed, ingenuity, economy and guaranteed on-time delivery—and they get it! • You can, too. Call today for a consultation—with no obligation, of course! There are 63 sales offices—one or more near you.

NATIONAL CONTAINER CORPORATION

NEW YORK OFFICE: 405 LEXINGTON AVE., N. Y. 17, N. Y.

CORRUGATED PAPER CONVERTING PLANTS • Atlanta, Ga. • Aurora, Ind. • Bradford, Pa. Bristol (Phila.), Pa. • Chicago, Ill. • Dallas, Texas • Detroit, Mich. • Jacksonville, Fla. • Long Island City, N. Y. • Los Angeles, Calif. • Madison (St. Louis), Ill. • Memphis, Tenn. • Miami, Fla. • Milwaukee, Wisc. • Newark, N. J. • Oakland, Calif. • Salisbury, N. C. • St. Paul, Minn.

Background for packaging

Notes, quotes and comments

Higher sales than a year ago were foreseen for the fourth quarter of 1957 by more than half of the businessmen interviewed in the latest Dun & Bradstreet survey. Most executives expected price rises to account for part of the increase in gross sales. For every manufacturer who felt his company's sales volume in the fourth quarter might fall below that of a year ago, eight expected an increase in sales. Manufacturers of non-durable goods were more optimistic than businessmen in other lines: 61% expected sales increases.

Economic readings continue highly favorable for all producers of packaged goods. Total national income for the first five months of this year at $140½ billion was 4.7% higher than last year's corresponding total of $134¼ billion. Personal income for the first seven months was at an annual rate of $341 billion—$19 billion, or 6%, higher than in the corresponding period of 1956. Total estimated sales of all retail stores for the first six months were $95.3 billion, an increase of 5% from the same period of 1956.

More evidence is in as to the booming importance to packagers of supermarkets as outlets for all kinds of non-food lines. Over the last 10 years, says *Forbes*, the supers have increased their food dollar volume 64%, but have boosted non-food sales by a walloping 126.6%. The fastest-growing non-food line is housewares, now carried by 90% of all supermarkets as against 45% in 1950. *Note:* Grand Union stores are reported mapping a major non-foods expansion—in ready-to-wear, housewares, toys, infants' and children's wear.

Shifting pattern of markets should be noted by cosmetics packagers. According to latest reports in *Printer's Ink*, sales through drug stores are down; sales through food stores, up; sales through department stores, down; sales made house-to-house, up; sales in snydicate stores, down.

Watch aerosols in the pharmaceutical field. Now that technical problems have been largely solved, pharmaceutical packagers can be expected to throw all their skills at promotion behind aerosols—a feature largely lacking in the toiletries field. A DuPont spokesman predicts, on the basis of a nationwide survey conducted last year, that an aggressive program of promotion and consumer education can easily boost pharmaceutical aerosols from their 1956 market of $3½ million to $20 million by 1960.

Food for thought: "Every merchandising trend that runs strongly in one direction furnishes an opportunity for a few manufacturers in precisely the *reverse* direction. Thus, we are right now in a broad trading-up era. But some manufacturers who have been on the high end will find broader markets by moving down a few pegs. One basic reason: our great middle class has really become an upper class. With the step-up in income, the step-up in the desire for social standing has moved ahead even faster—and that means a growing demand for prestige brands."—*E. B. Weiss.*

Has the rush to foil for soap wrappers run its course? Ad agency researchers for a top popular-price bar soap, which has so far resisted the switch to foil, are out scouting the supply field for something entirely different. The feeling is that glitter is getting commonplace in the toilet-soap section and that stand-out distinction can now be won only by something completely unlike foil.

Upward price trend is noted by the Containers Committee of the National Assn. of Purchasing Agents. Price increases on metal containers, reflecting the steel price rise, are anticipated [*Continued on page 46*]

THE CONTAINER STATES OF

We see your packaging problems this way

Need a folding box in Austin? . . . a frozen food shipping container in Dubuque? . . . a bulk chemical container in Pennsylvania? . . . a multiwall bag in California? Our local packaging plants can get it to you . . . and *fast*. The map shows why. Wherever industry is concentrated, wherever the need for packaging is greatest, one of the St. Regis multiwall bag, folding, set-up or corrugated box plants can probably be of service to you.

St. Regis will work with your engineers and merchandisers to provide the right materials, designs, construction and printing. St. Regis quality control, every step of the way from forests to mills to plants to finished products, assures you better packages and

AMERICA

The relative size of each state corresponds to its industrial volume. The dots represent plants.

packaging materials. Whether you package with paper, board, glassine, plastic, or laminates, St. Regis will bring you prompt, efficient, economical service . . . the kind of service you can expect from a company that builds its future on service.

For booklet, *Containers . . . Where to Find Them*, describing St. Regis products and the people to contact for further information about them, write: St. Regis Paper Company, Dept. M-1057, 150 East 42nd Street, New York 17, New York.

St.Regis PAPER COMPANY

150 EAST 42ND STREET, NEW YORK 17, N.Y.

in the fourth quarter, but supplies are adequate and competition "extremely keen." Prices on corrugated boxes are firming, but price cuts have been noted recently in chipboard folding boxes. Buyers of paper bags, says the NAPA *Bulletin*, have been plagued all year by rumors of price increases; some suppliers have announced increases in both base charges and extras for the fourth quarter—but may back down because of extremely active competition.

Significant in the face of price increases in other types of packaging materials is the continuing reduction in plastic films. DuPont has just announced a cut of 25 cents per pound in most grades of its Mylar polyester film—the fourth successive reduction since commercial production of polyester film started three years ago—bringing the price in the range of $2 a pound for most heavy gauges and to $4 a pound for the high-yield 25-gauge film. Meanwhile, DuPont and Olin have announced a drop in polymer-coated cellophane from 84 to 79 cents a pound—at which price it is only 10 cents more than conventional moistureproof film.

Background for packaging

Metalized paper, which may be competitive with laminated aluminum foil, is in the offing. The National Research Corp. has perfected a vacuum process for deposition of metal coatings on paper (and, reportedly, paperboard), similarly to what has been done with plastic films, and test marketing of several products is quietly under way. Construction of a production-scale paper metallizer has been started and a report to stockholders says substantial sales volume is expected within the year.

How important is the appearance of your package in a supermarket? Within a given two-week period, says a report on a series of marketing studies by *Look*, four-fifths of the nation's population 10 years of age and older—or 101,300,000 persons—shopped at least once in a grocery store or supermarket. They bought coffee more than any other item, followed, in order, by laundry soap or detergent, soft drinks and canned vegetables.

[*Continued from page 43*]

Canned soft drinks may not be a lost cause, as some have believed. The American Can Co. found in a recent survey that about 40% of the nation's soft-drink buyers have tried cans and more than half of these continue to buy the canned variety. About one out of five who have tried canned drinks are purchasing cans six or more times a year.

Acceptance of foam as a packaging cushioner reaches new status with announcement by the Electronics Supply Office of the Department of the Navy that it is revising its specifications to encourage the use of resilient foamed plastics, such as the polyurea esters and ethers, for its most fragile and costly electron tubes. A list issued by the Great Lakes office names all known manufacturers of foam packaging materials and foam dispensing equipment.

How pre-packaging grows after a sound method is worked out is demonstrated by a Department of Agriculture survey of carrot pre-packaging. As recently as 1951, a scant 1% of fresh carrots was sold in packaged form; by 1956, about 85% was packaged, with substantial reduction of transportation cost, less spoilage and better salability. Reasons for the gain: moving packaging back to the shipping point; developing economical mechanized ways of filling and weighing in 1-lb. film bags; substituting economical shipping bags for crates, and educating the consumer to accept pre-topped carrots.

Problem for polyethylene, if it hopes to replace now-more-costly cellophane in hermetically sealed overwraps and bags, will be difficulty of opening. Mechanized wrapping and sealing of polyethylene film is being developed to the point where it could soon, for example, be used as a cigarette-package overwrap. But how to open? Needed, and not now available, is a tear tape strong enough to tear through 1-mil polyethylene.

START HERE

COLUMBIA BOXBOARD MILLS

OVERNIGHT DELIVERIES

DELIVER TO

MILTON BRADLEY CO.

EXPERT STOCK PREPARATION

MODERN MACHINERY

STEEL SKIDS

LABORATORY TESTED

TAKE 11 GIANT STEPS!

(ANY NUMBER CAN PLAY)

Move ahead in the game of competition . . .

Play it the way Milton Bradley Company does. They're the world's foremost manufacturers of games — *and they make 'em of Columbia boxboards!*

Everyone wins with Columbia boxboards. They're strong, light, economical — and they *keep* that fresh, "just-printed" look you'll find so valuable at the point of purchase.

You'll reach your goal faster by using versatile Columbia boxboards for every boxmaking and packaging purpose.

40 Years of Progress

COLUMBIA 40

COLUMBIA

BOX BOARD MILLS, INC

CHATHAM AND WALLOOMSAC, N. Y.

Makers of famous Krafibre

1ST HIGH GRADES

VARIETY OF PRODUCTS

A significant advance in automatic high-speed carton filling and sealing

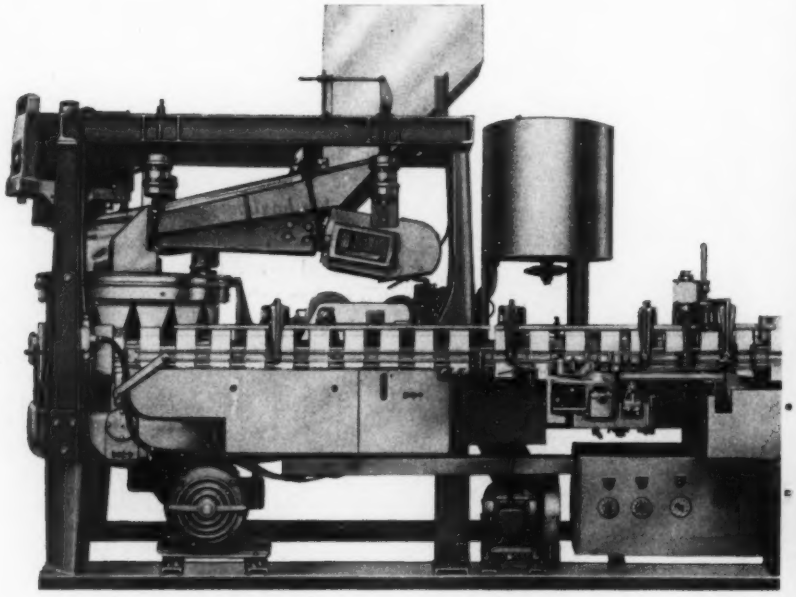
Only S & S Neverstop

1 High speed carton filling and sealing... up to 400 per minute

Stokes & Smith has perfected and incorporated as standard features a series of important refinements which make possible higher filling and sealing speeds than ever before. First of these refinements is a new method of carton feeding utilizing suction to open and accurately position the cartons in the feed conveyor. Depending on the carton size, this new feed can operate at a rate up to 400 cartons per minute.

Selective, continuously running glue rolls, accurately spot adhesive on the carton flaps to assure positive bonding at high speed. To accurately control net fill at these high speeds Stokes & Smith has devised an entirely new electronic filling head to maintain the 400 per minute rate offered by the other refinements.

Typical preprinted folding cartons automatically filled and sealed, with hot-melt adhesive, on Neverstop Model EH operating at a speed of 400 cartons per minute.



For complete details of these new developments, write for your copy of Neverstop Bulletin P-808.

fmc
FOOD MACHINERY AND CHEMICAL CORPORATION

FMC PACKAGING MACHINERY DIVISION

Stokes and Smith Company

4904 SUMMERDALE AVE.
PHILADELPHIA 24, PA.

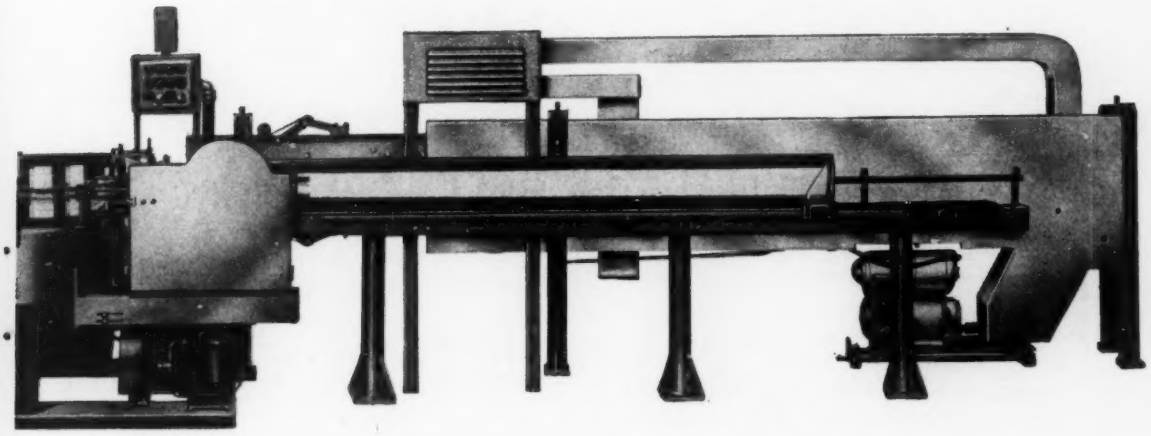
can give you...

2 Electronically controlled filling accuracy

This radically different filling method is designed for high speed filling which is accurate even when product density varies. The new head controls by electronic feed-back the rate of product flow into cartons to assure uniform net weight fill. It consists of a vibrating chute from which the product is continuously discharged on to a slanted check-weight scale pan and then into the cartons. The rate of flow is pre-set to deliver required net fill at the desired speed. Any deviation from this pre-set rate of flow is detected by the scale and relayed to the electronic monitor which automatically corrects the rate of flow by adjusting the amplitude of vibration in the chute.

3 With either hot melt or cold glue

For the first time, two basically different types of sealing are offered to assure positive bonding of a wide variety of carton stocks. In addition to cold glue, Stokes & Smith now offers models equipped for hot melt (thermoplastic) adhesive sealing . . . perfected and field tested for Neverstop in cooperation with adhesive producers and carton suppliers. With suitable cartons, hot melt opens up excellent possibilities for producing carton seals made sift-tight and "moisture-proof" without liners or overwraps. Substantial savings can thus be realized in the packaging of cereals, soap powders, spices, dessert powders and many other free flowing products where such sealing properties are desired.



6 models

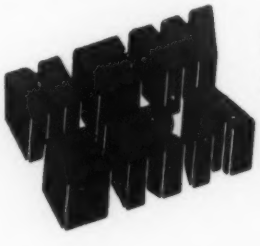
To meet your packaging requirements at lowest cost, Neverstop is available in six models with a wide range of options as to carton size, speed of fill, filling method and type of adhesive.

- Prints any number of colors in a single run
- Prints one or both sides at the same time
- Die cuts any size, any shape with male steel-rule dies
- Prints paper, board, silk, cotton, heat-seal, gummed, ungummed, or any type of label or tag material
- Slits, perforates, numbers, punches, eyelets, and patches reinforcements—*as it prints*
- Delivers finished product cut-off, rewound, or zig-zag folded
- Up to 7500 impressions per hour!

Write for free New Era Bulletin today!

These jobs from paper roll to finished product in one run:

LABELS—gummed, ungummed, heat-seal, silk, cotton.
TAGS—merchandise, shipping, manifold.
COUNTER DISPLAYS—up to 12" x 12".
BAG HEADERS—and other specialties, forms, and tickets.



Auxiliary equipment for Stringing, Knotting, Wiring, etc. available from Graeber Stringing & Wiring Machine Company, division of New Era Manufacturing Company.

Manufacturing Co.
371 Eleventh Avenue,
Paterson, N. J.

MEMBER

19th Annual Forum
Oct. 28, 29, 30, 1957
Hotel Statler
New York City

"Weldon in a window box makes the passer buy!"

"Weldon First Nighter pajamas and window boxes have been stopping the passerby for close to 24 years now," says Louis Lubin, President of Weldon Pajamas, Inc. "Through the years, First Nighters have continually been our best sellers, and we attribute a good part of our success to the way the window box accents the quality of our merchandise, lets our customer see the high quality he's getting."

Acetate window boxes can nudge a sales curve upward . . . and especially when the window is sparkling Celanese acetate.

Celanese acetate has a crisp new look that withstands the adverse conditions of humidity, heat and dryness—the conditions of long storage or display. Celanese acetate retains its sparkling transparency, full selling impact, its eye-appeal.

If you're using window boxes, or plan to use them, make sure your products get the selling advantage of Celanese acetate. You can't find a better material—a non-aging film that offers economy . . . acceptability . . . that moves merchandise faster. Send for an interesting brochure which shows how top companies sell their products with acetate window boxes. Use the coupon below. Celanese®

Celanese
PACKAGING FILMS

Celanese Corporation of America, Plastics Division, Newark 2, N. J.
Canadian Affiliate: Canadian Chemical Co., Limited, Montreal, Toronto, Vancouver.
Export Sales: Amcel Co., Inc., and Pan Amcel Co., Inc., 180 Madison Ave., N. Y. 16.

Sales Department, Celanese Corporation of America, Dept. 108-J, Plastics Division, 744 Broad Street, Newark 2, N. J.

Please send me brochure containing Celanese acetate case histories.

Name_____

Title_____ Company_____

Address_____

City_____ Zone_____ State_____

Hamilton new 501 bodymakers are in service at many well-known plants

Installations pictured above, Hershey Chocolate, Hershey, Pa. (top); Sherwin-Williams, Oakland, Calif. (lower left); and Dole Pineapple Honolulu, indicate how leading packers have chosen Hamilton's new 501 Bodymaker to meet can requirements efficiently.

The main feature of Hamilton's new No. 501 Bodymaker is its central drive shaft. This unusual design results in fewer wearing parts and gears and improved accessibility.

Write today for a descriptive bulletin of the world's most complete line of can making machinery.

Hamilton Division Hamilton, Ohio

BALDWIN · LIMA · HAMILTON

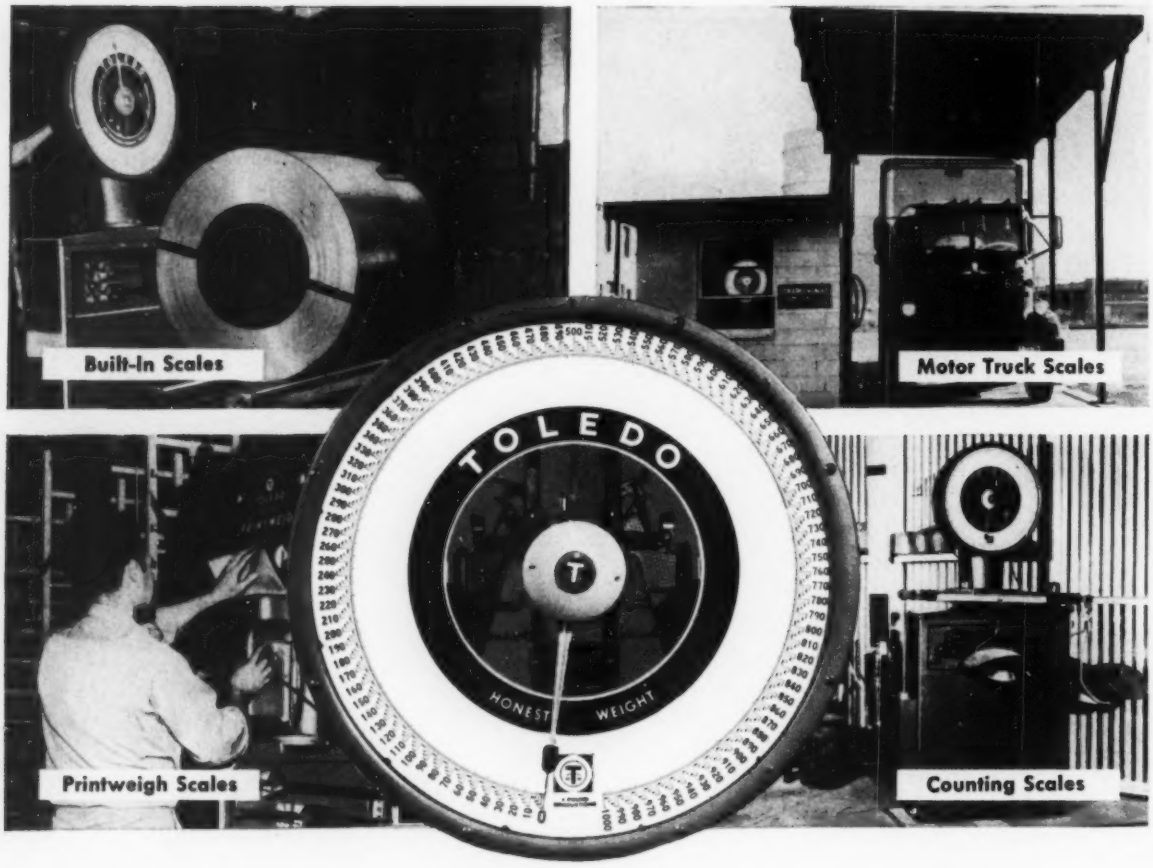
Diesel engines • Mechanical and hydraulic presses • Can making machinery • Machine tools

Recognizing the importance of first impressions— Max Factor and Company chose the prestige of Niemand Bros. tubular packages. Our packaging engineers are available for immediate consultation.

distinctive products demand distinctive packaging

Niemand Bros., Inc.
manufacturers of tubular paper products
37-01 35th Ave.
Long Island City 1,
New York

NB



For new ways to control your costs . . .

take a Plant-Wide Look at Weighing!

What's the status of weighing in *your* plant? It's important to know because weighing is a vital element in the overall cost control system. Weight records directly affect costs, quality, inventory control and customer billing. Weighing errors—or inadequate weight data—set the stage for losses in output, profits and customer good-will.

This calls for integration of weighing in a plant-wide weighing system . . . the right scales in the right places . . . to supply basic records on materials received, processed, shipped or transferred.

To learn the job your scales are now doing, we invite you to send for the new Toledo Weight Fact Kit. It will help you determine how well your scales measure up as a weighing system—help you detect weighing inefficiencies that drain profits.

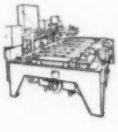
REQUEST YOUR WEIGHT FACT KIT NOW. No obligation. Address Toledo Scale Company, 1410 Telegraph Road, Toledo 13, Ohio.

TOLEDO® HEADQUARTERS FOR WEIGHING SYSTEMS

CUSTOM PRODUCTS FOR INDUSTRY

REMOTE DIGITAL WEIGHTS. Toledos automatically transmit weights to electric office machines located anywhere.

ELECTRONIC SCALES give electronic wings to weights; head may be located anywhere.



TESTING Toledos today test a wide range of parts; this device for leaf springs.

AUTOMATIC BATCHING SYSTEMS interlock batteries of scales.

For that look of golden elegance...

NEW BBD "GOLD-TONE" FLEXOGRAPHIC INKS

All the richness and beauty of regular gold inks ...with none of their drawbacks

Lower cost
"GOLD-TONE" inks cost only half as much as regular gold bronze inks

Better press performance
... fewer washups needed, less wear on plates and rollers

Non-tarnishing
... will not discolor with age

Lower viscosity
... prints cleaner, sharper--lays more uniformly

Ready-mixed
... just stir and use--does not tend to separate, like gold bronze inks

Wide shade range
... from pale to rich, including copper tones

No longer need gold be a production problem to the flexographic printer nor a budget problem to the flexible packaging user. Now, with new BBD "GOLD-TONE" flexographic inks you can produce beautiful golden effects as easily as you print red, blue and other conventional colors. You can use "GOLD-TONE" inks for reverse printing on all types of moistureproof *cellophane* . . . use them just like any other fine BBD alcohol-type flexographic ink to get better results at lower cost than is possible with old-fashioned gold bronze inks. We'll be glad to furnish full details about new "GOLD-TONE" inks together with sample prints showing various shades. Contact your nearest BBD office or write, on your business letterhead, to *Bensing Bros. and Deeney, 3301 Hunting Park Avenue, Philadelphia 29, Pa.*

Manufacturing plants in
PHILADELPHIA • CHICAGO
CAMBRIDGE, MASS. • MONROE, LA.
SAN LEANDRO, CAL.

•

A subsidiary of
Sun Chemical Corporation

Sales offices in
all principal cities

•

Export:
Overseas Division,
Sun Chemical Corporation
L. I. C., N. Y.

FOR SHIPMENT

and **storage**

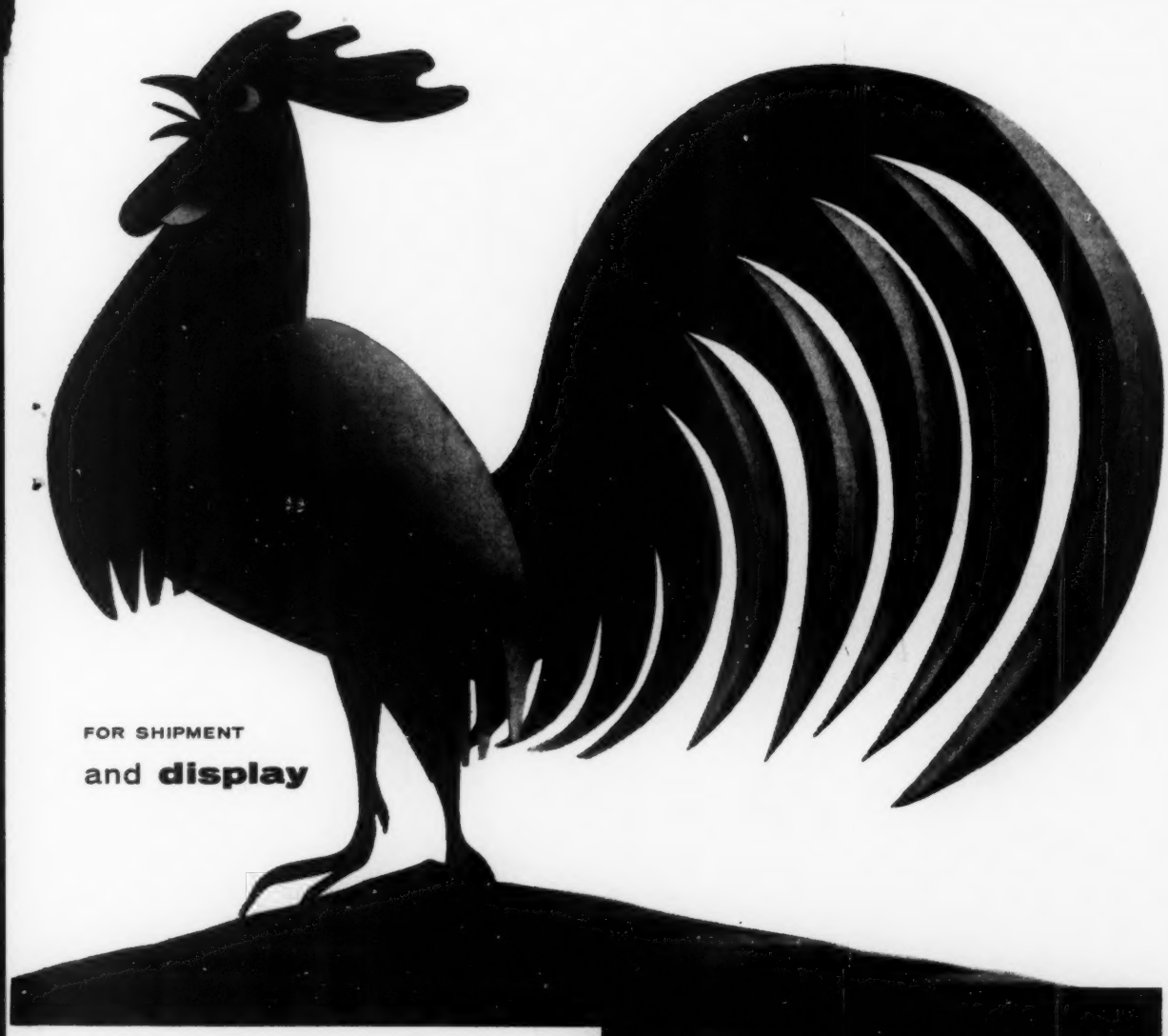
KRAFTSMAN LINER

Both KRAFTSMAN LINER and KRAFTSMAN SUPERLINER make strong, rigid corrugated containers for shipment and general handling. With each, strict quality control assures runability at any speed for fast, trouble-free conversion and lamination. Each, however, has its special use.

KRAFTSMAN LINER is a Westvaco-quality Fourdrinier linerboard with a natural kraft color and smooth, even-textured surface offering excellent printability and printed appearance. Tough, too, it meets every requirement of standard corrugated containers.

WEST VIRGINIA PULP AND

KRAFTSMAN LINER • KRAFTSMAN SUPERLINER • KRAFTSMAN WHITELINER



FOR SHIPMENT
and **display**

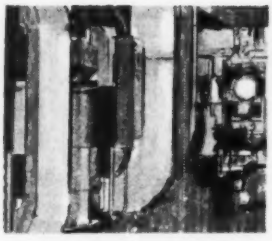
KRAFTSMAN SUPERLINER (formerly known as ISL) offers such plus values as extra brightness and extra smoothness at no extra cost. This unbleached kraft linerboard provides unique printing detail and contrast. SUPERLINER is ideal for displays or cartons where greater attractiveness and legibility are essential.

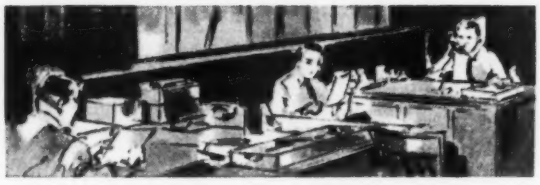
These are two members of the Westvaco KRAFTSMAN family—the *complete* line of containerboard for every conversion use. All have the same superior quality and controlled uniformity. For more information, call your KRAFTSMAN representative today.

W

PAPER COMPANY · 230 Park Avenue, New York 17, N. Y.

· KRAFTSMAN DURA-CORR · KRAFTSMAN WEATHER-TITE DURA-CORR





SERVICE... IT IS MANY THINGS

Service at Ivers-Lee means speed of production. It means quality Unit-Packaging. It means attention to every detail . . . from original design to suit the product to final, careful delivery. It is service based on a thorough understanding of the merchandising and distribution problems of our customers.

This is service which allows the small customer to obtain the advantages of packaging techniques and equipment he could not afford to maintain in his own plant. Too, the large customer is relieved of the necessity of investing huge sums of money in equipment which he would otherwise need for his greater requirements—and, at the same time, allows him to keep inventories low.

Here is service that permits **all** customers to change their Unit-Packages at will and to design new packages for sampling or selling introductory products.

IVERS LEE CO.

Ivers-Lee is the creator and Contract Packager of Super-Sealtite, the Catchcover, the Tab Pak and a thousand and one other unusual packages for sampling and distributing single or multiple doses of tablets, capsules, powders, creams and liquid Dropettes.

announcing

new

K ystik *

KYLON . . . the transparent tape that is better 5 ways

It's waterproof, moisture-proof!

KYLON sticks to practically any surface. Wetting won't cause it to come loose. It's the perfect vapor barrier for keeping moisture *in* . . . keeping moisture *out!*

packaging strength

KYLON "soaks up" shock and abuse that break ordinary transparent tapes. It has 9 times higher "tear resistance" than cellophane tape, gives under strain instead of snapping, recovers after repeated impact.

It's age-proof!

KYLON won't swell in summer, won't dry out in winter like other tapes. Unlike cellophane KYLON rolls retain their shape indefinitely, don't ooze adhesive.

It
sticks tight-
stays stuck!
KYLON's superior adhesive gives unsurpassed "quick grab" and holding power. Peels clean without transfer.
It's thinner, too!
New thinness makes KYLON neater, nicer. Gives it greater conformability to uneven or irregular surfaces, too.

Kylon is just one of many MYSTIK Self-Stik products, engineered to simplify materials handling and packaging...cut costs!

5000-C WATERPROOF PLASTIC-COATED TAPE—The universal specification packaging tape. Sturdy, high-count flexible cotton backing. Excellent tack and resistance to abrasion. Conforms to Government Spec. (JAN-P-127, Type 1).

6220 FLEXSTRON® FILAMENT REINFORCED TAPE—Heavy-duty, high tensile packaging tape for reinforcing, holding, bundling, palletizing and stripping. Replaces steel strapping. Measure-marked every 6" for economy in application.

6325 HIGH TENSILE ROPE STOCK TAPE—Has strength of cloth tape plus conformity and thinness of paper tape. Stain-resistant, long-lived—perfect for holding, binding and sealing for extended storage periods.

6375 PRINTABLE PAPER TAPE—takes clean, sharp printing from type or engravings for low cost labels, stickers, instruction plaques, etc. Backing is strong, thin, flexible—peels without transfer. In white and 5 bright, attractive colors.

FORM No. 2565 LITHO IN U. S. A.

NAME_____

POSITION_____

COMPANY_____

ADDRESS_____

CITY_____ ZONE____ STATE_____

glass containers move more food!

Use Anchorglass® *containers sealed with* Anchor® *caps*

. . . because they permit product visibility

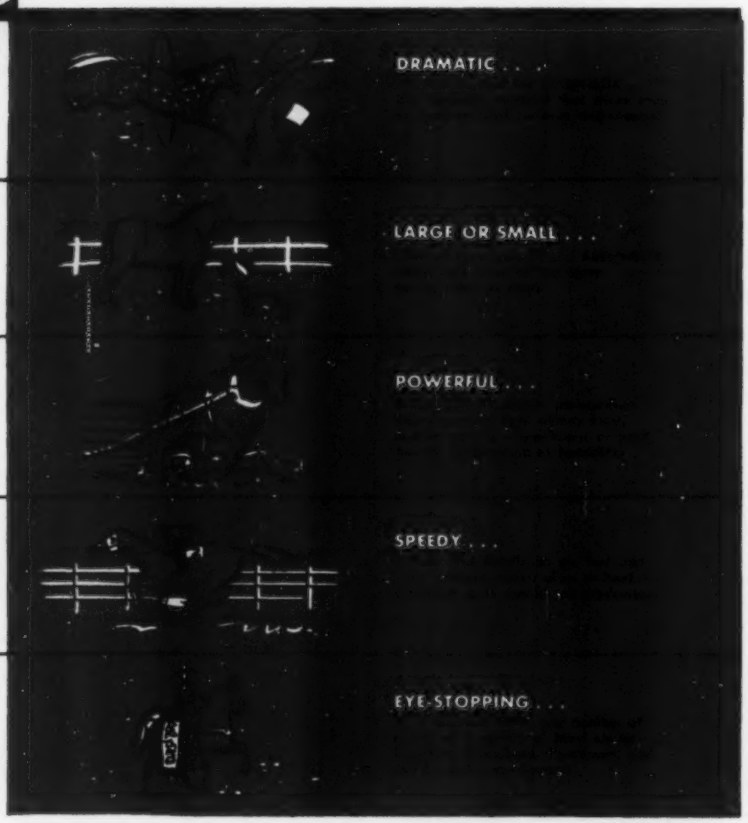
EIGHTY-SEVEN of every hundred food shoppers buy on sight. That's why the transparency, brilliance and clarity of glass containers make them unsurpassed packages for the high volume movement of food products. Sparkling clear glass containers reveal and glamorize the true color, size, texture, shape and quality of their contents . . . afford an exciting and tantalizing view which stimulates the appetite and the desire to buy. Move more of your food products in glass . . . in Anchorglass containers, sealed with dependable Anchor caps.

ANCHOR HOCKING
GLASS CORPORATION
Lancaster, Ohio

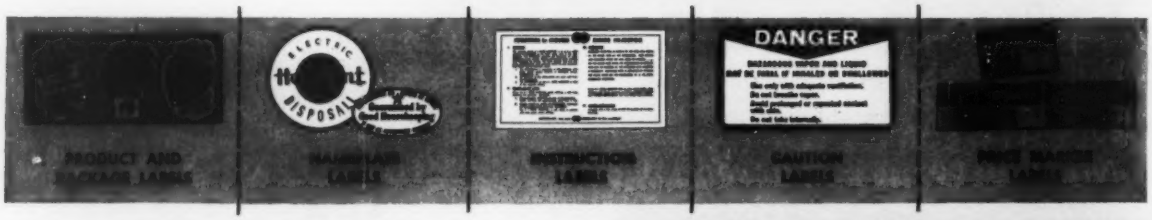
Put more Selling "Horsepower" in your P.O.P. LABELS with KLEEN-STIK®

MOISTURELESS, SELF-STICKING ADHESIVE

If your present product or package labels lack the power to pull your sales load, hitch up to KLEEN-STIK! These long-lasting, self-sticking labels *dominate* at the point of sale. Help move *more* of your products by harnessing the selling power of KLEEN-STIK—"work-horse" of effective labeling!



WE DO NO PRINTING—so contact your regular Label Printer. He can supply KLEEN-STIK Labels in roll-dispensed or individual split-back style.

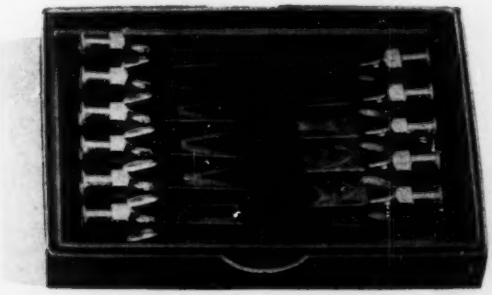


KLEEN-STIK Products, Inc.
7300 WEST WILSON AVENUE • CHICAGO 31, ILLINOIS
Pioneers in Pressure-Sensitives for Advertising and Labeling

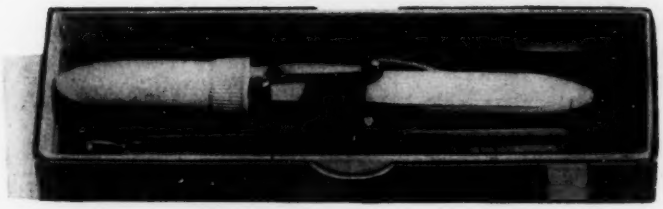
Write today on your letterhead for free samples of outstanding KLEEN-STIK labels

owell Boxes

Syringe Box



Needle Box

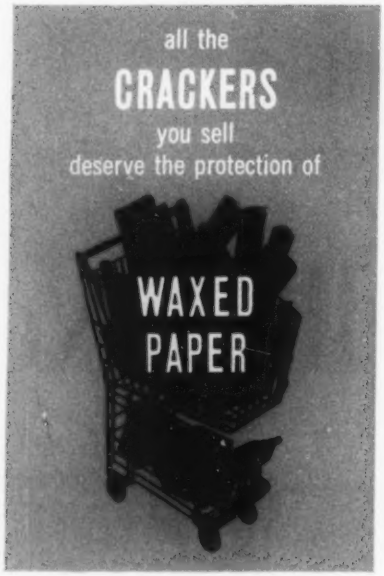


Thermometer Box

for distinction
and utility

E. N. Rowell Co. Inc.
BATAVIA, NEW YORK

Canisters, round and square set-up boxes for every purpose



Preferred by America's best-known brands because...

More Sales Power Per Package ...with Waxed Paper

Effective, protective "billboard" packaging! Popular Waxed Paper sales-wrap stops self-service shoppers, pushes your product, makes registers ring!

- **Flavor protection**—Seals in and safeguards all that appetizing just-baked goodness . . . flavor that brings satisfied shoppers and retailers back for more!
- **Freshness protection**—Protects against moisture invasion, maintains texture and crispness best! Longer shelf and pantry life cuts down returns and lost sales! Double protection, too! Inner and outer wraps of Waxed Paper or inner wraps of Waxed Glassine Paper stand guard over freshness of unused sections. Easy to open and reclose. Crackers won't stale!
- **Billboards your brand**—Every package is a *billboard* in the store and in the home, sparking impulse sales and pulling repeat customers with its strong appetite appeal, superior printability, powerful brand identification, proved selling features! Rugged self-sealing wrapper handles easily on the machine, passes every shipping, in-store and consumer handling test!
- **Low cost**—Unusually low initial wrapping costs plus steady, dependable supply and other Waxed Paper advantages add up to higher *net* profits!
- **Customer preference**—A Waxed Paper wrapper suggests a fresher, crispier, tastier product. No wonder customers look for it!

Waxed Paper teams up with the experience, facilities and services of the nation's top converters, delivers modern design packaging and product protection that pays off in bigger business for you!
And the job doesn't stop here!

Suggested traffic-stopping *designs*, sales *ideas*, actual *samples*, complete *cost sheets*—they're all yours for the asking! So for expert packaging help, see your Waxed Paper salesman today. Or write or telephone us direct.

W
PROTECTS FRESHNESS AND FLAVOR
P

Remember...Waxed Paper is more than a wrapper. It billboards your brand, merchandises itself, sells itself. Waxed Paper is an advertisement with genuine appetite appeal. In fact, it's an appetizement!

WAXED PAPER MERCHANDISING COUNCIL, INC., *38 South Dearborn Street, Chicago 3, Illinois, STate 2-8115*

It's the most important moment in the life of your product — that moment when Mrs. Consumer makes her final choice. *Will your package win out over your competitor's?*

Helping Mrs. Consumer make up her mind in your favor is one of the jobs a Milprint package does best, with over half a century of experience behind it. And *only Milprint* can offer you so much specialized experience covering so many kinds of consumer products.

Knowledge, experience, complete facilities — they add up to the "Milprint touch" that compels sales. Put it to work for you — call your Milprint man *first!*

Printed Cellophane, Pliofilm, Polyethylene, Saran, Acetate, Glassine, Vitafilm, "Mylar"® Foils, Laminations, Folding Cartons, Bags, Lithographed Displays, Printed Promotional Material

*REG. U. S. PAT. OFF.

THIS INSERT LITHOGRAPHED BY MILPRINT, INC.

Sterling Supreme & Trojan Imperial gummed tapes make work pleasant, cut labor turnover

WORKERS are only human. Give them a pleasant-smelling tape to use and you are bound to decrease labor turnover in the packaging room. That's why Gummed Products' laboratory technicians have gone to such pains to develop quick-sticking, strong adhesives with an agreeable vanilla odor . . . right down the entire line.

In addition to super-standard STERLING SUPREME and popularly priced TROJAN IMPERIAL sealing tapes, The Gummed Products Company offers a wide selection of special purpose tapes. Ask the paper merchant who distributes Sterling or Trojan in your locality about them. He's your dependable source of supply for all your paper and gummed tape requirements.

The Gummed Products Company

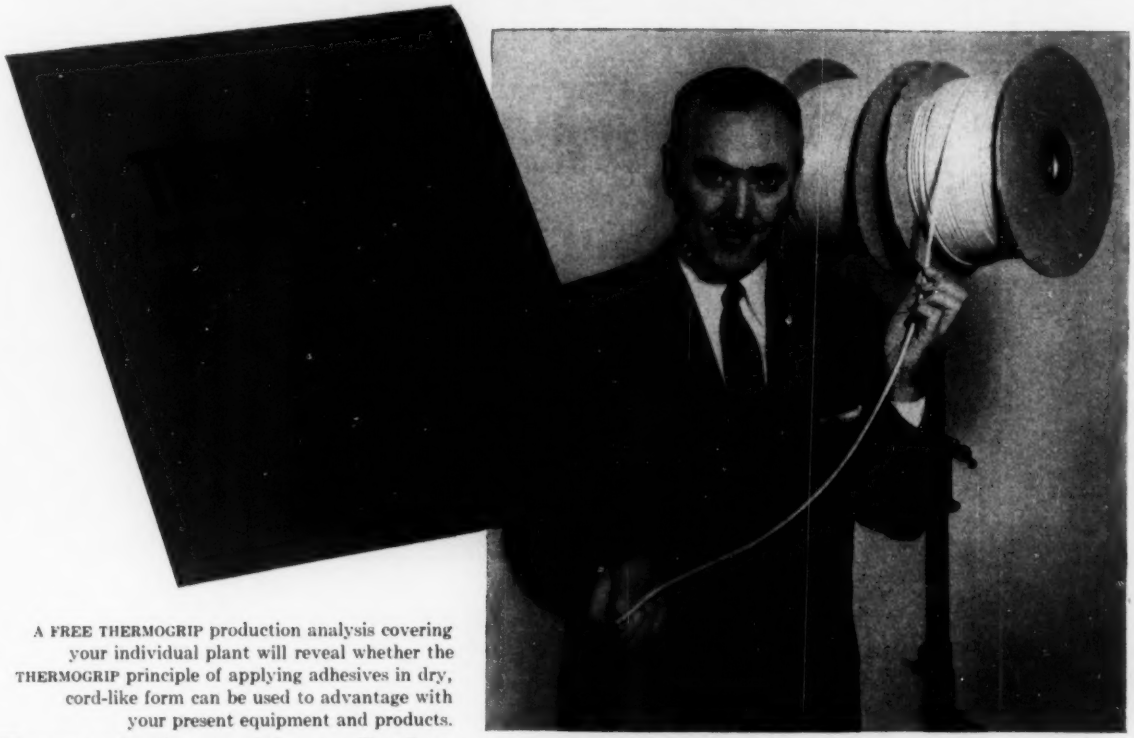
Troy, Ohio • Subsidiary of **St. Regis Paper Company**

FREE

Fill in and mail coupon below now. It may save you thousands of dollars, production time, solve tough adhesive problems, help do jobs that were heretofore impossible.

THERMOGRIP

PRODUCTION ANALYSIS



A FREE THERMOGRIP production analysis covering your individual plant will reveal whether the THERMOGRIP principle of applying adhesives in dry, cord-like form can be used to advantage with your present equipment and products.

When you send us the coupon below, we will mail you a simple outline of the type of data we need about your production goals, problems, and type of equipment and stock you are running.

The greatest production successes with THERMOGRIP adhesive have come through its application on continuous feed machines with kraft, polyethylene, polyethylene coatings, foil, fibreboard, absorbent or porous materials, and many others.

It costs you nothing to find out about the possible savings THERMOGRIP adhesives can offer you. There's no obligation. You get the benefit of our production experience with many types of packaging materials and machines. Look into it today!

FILL IN THE COUPON NOW FOR YOUR FREE PRODUCTION ANALYSIS.

United SHOE MACHINERY CORPORATION 140 FEDERAL ST., BOSTON 7, MASS.

Gentlemen:

I would like to receive a FREE HERMOGRIP ADHESIVE Production Analysis as soon as possible. Send your outline of the data you need. No obligation to me of course.

Name.....*Title*.....

Company.....

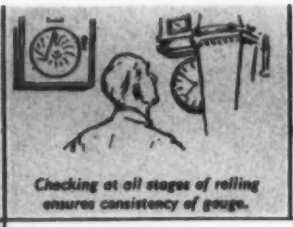
Address.....

City.....*State*.....

The need to maintain trouble-free operation of high-speed laminating and packaging machines has led to greater demands upon the high qualities of foil.

The excellence of Venesta foil as the modern packaging material is due to...

Venesta foil is second to none in brilliance of finish



Checking at all stages of rolling ensures consistency of gauge.

Venesta foil can form an absolute barrier against bacteria, moisture vapour, odours and gases.

Venesta foil can be laminated to paper or plastic film for specialized end uses.

Direct printing or embossing on Venesta foil eliminates the need for labels.

Throughout manufacture and processing, Venesta foil is checked and rechecked. Because of this constant attention to quality at *all* stages, packers and converters can feel confident that their machinery will run more smoothly, and that lamination will be carried out more satisfactorily.

VENESTA FOIL

Agents for the United States of America & for Canada

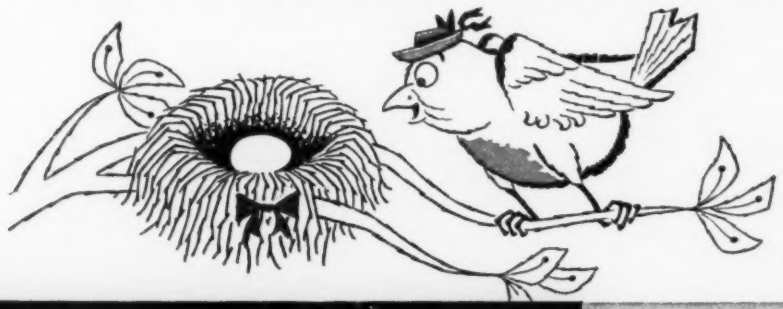
PARSONS & WHITTEMORE INCORPORATED

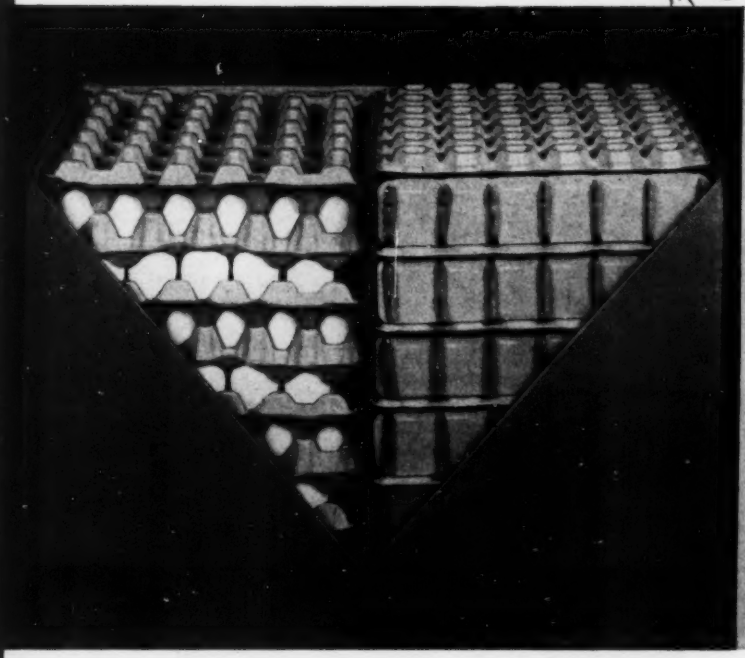
250 Park Avenue, New York, 17, N.Y. phone Yukon 6-6000

For the addresses of our Agents in other countries write to VENESTA LIMITED, Vintry House, Queen Street Place, London E.C.4, England

VENESTA

Man-Made NESTS





custom-fitted protection guards a fragile eggshell

If you have a delicate packaging problem, be wise—call Keyes!

Be Wise-Buy KF

A wide variety of fragile products—foods, glassware, electrical parts and many others—are now packed more efficiently with Keyes molded pulp shapes. In addition to eliminating losses from damage in transit, packers usually find that molded pulp actually costs less than ordinary packing materials and saves valuable storage and shipping space. Take advantage of these savings. Years of experience in the field of molded pulp, coupled with modern plants and manufacturing skills, are available at Keyes to design and produce better packaging for you.

MAKERS OF FAMOUS ROYAL CHI-NET® MOLDED PAPER PLATES

Product Development Division, Dept. MP

KEYES FIBRE COMPANY **WATERVILLE, MAINE**

Another new development using

B.F.Goodrich Chemical *raw materials*

with Geon...

who needs alligators to sell jewelry

Handsome "alligator" jewelry display cases are now being made of Geon polyvinyl materials.

These attractive cases have the look of real leather—are actually better in many respects, but cost less. They are light and tough, take drops and bumps, resist scuffs and abrasion. Rigid vinyl sheeting made from Geon is pressure-formed for both base and lid and electronically bonded around a "core" of 100-point cardboard. Result—economical construction with the luxury look.

Versatile Geon is being made into a broad variety of containers and cases that can be transparent, textured, grained, brightly colored or opaque. Coatings, film sealants, tape, barrier materials and other products, too, are being made of Geon polyvinyl materials in the packaging field.

For technical information, write Dept. FW-5, B.F.Goodrich Chemical Company, 3135 Euclid Avenue, Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.

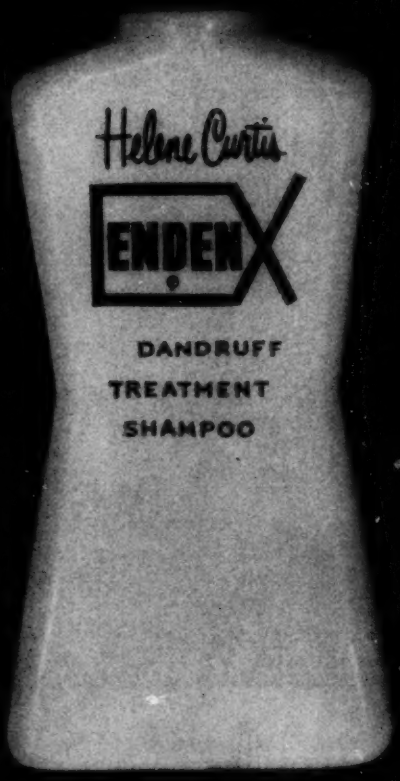
Speidel Corp. display cases styled by Richard Arbib Co., are manufactured by Plaxall Inc., Long Island City, N. Y. Cases are thermoformed from vinyl sheet made by Nixon Nitration Works, Nixon, N. J. B.F.Goodrich Chemical Company supplies the Geon polyvinyl materials.

Geon
Polyvinyl Materials

B. F. Goodrich Chemical Company
a division of the B.F.Goodrich Company

B.F.Goodrich GEON polyvinyl materials • HYCAR American rubber and latex • GOOD-RITE chemicals and plasticizers • HARMON colors

Another container of distinction by Royal



Bottles from stock molds (¼ oz. to 32 oz.) are stocked by these distributors:

LOS ANGELES
Berri-Ecklund, Inc.
4726 Melrose Ave.

PATERSON, N. J.
Modern
Decorating Co.
155 Oxford St.

CHICAGO
Berman Bros., Inc.
1501 So. Laflin St.

MIAMI, FLA.
Magic City Bottle &
Supply Co.
1380 N.W. 23rd St.

SAN FRANCISCO
Marketing Agents, Ltd.
207 Powell St.

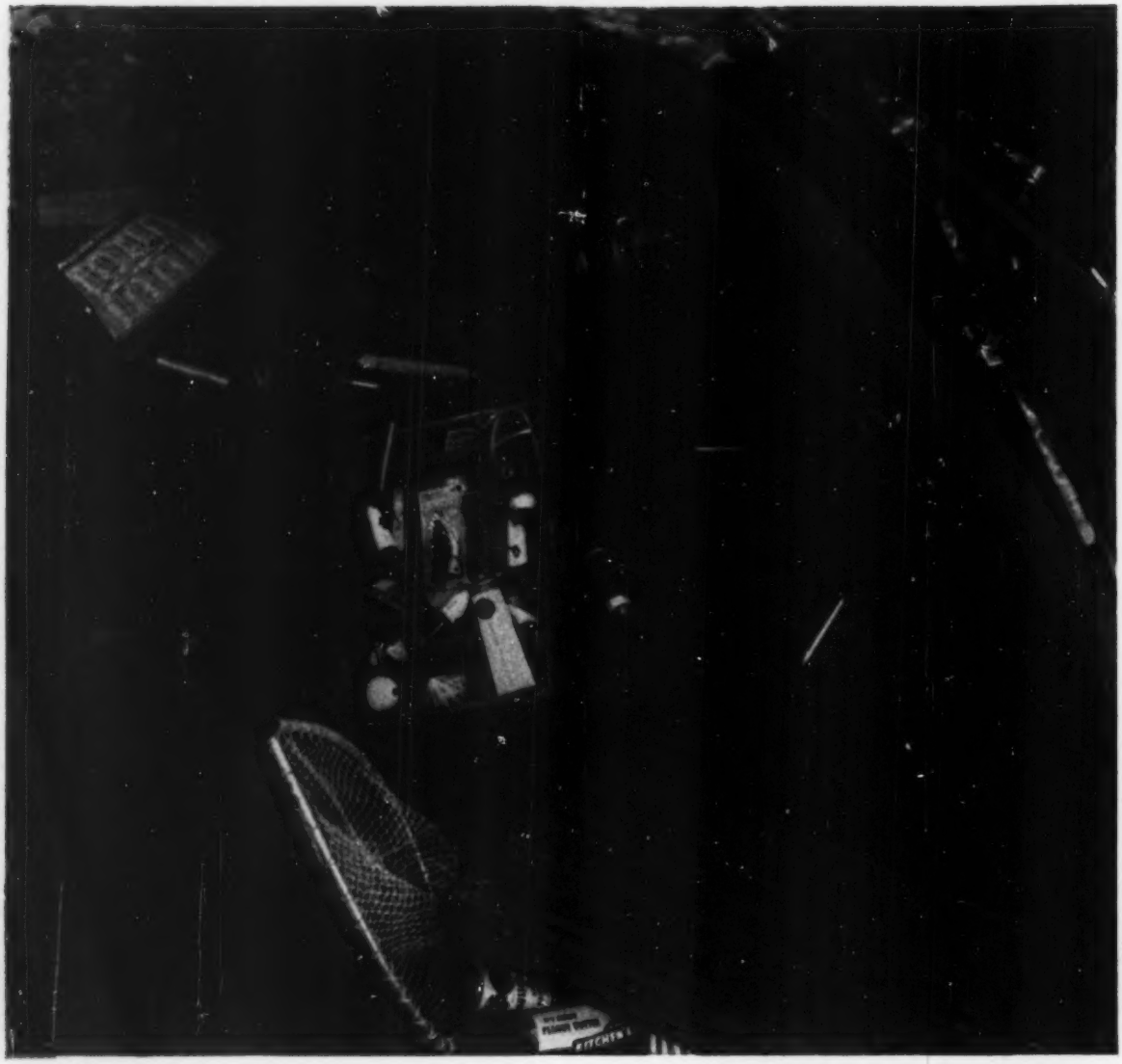
MONTREAL
Browns Bottle &
Supplies, Inc.
1655 Des Carrieres St.

Royal designs and produces containers for leading manufacturers throughout the nation and has complete facilities to produce private mold designs at surprisingly low cost.

Royal

Royal containers are made under U.S. Patent No. 2,750,624

ROYAL MANUFACTURING COMPANY, INC. PRESCOTT, ARIZONA



On the go . . . wherever you go . . . attractive fold-up metal tubes by Wirz make travelling light *and* easy. Keep products fresh between trips, too . . . right down to the last squeeze. Let a Wirz tube specialist show you how you can keep *your* product on the go . . . wherever your customers go.

PROTECTION • CONVENIENCE • SALES APPEAL COME IN TUBES BY *A. H.* **WIRZ** *Inc.*

RIGID CANS AND IMPACT EXTRUSIONS BY AMERICAN EXTRUSION CORPORATION, DIVISION OF A. H. WIRZ, INC.

4TH & COLE STS., CHESTER, PA.

ALSO CARROLLTON, KY.

NEW YORK • CHICAGO • LOS ANGELES • MEMPHIS • HAVANA

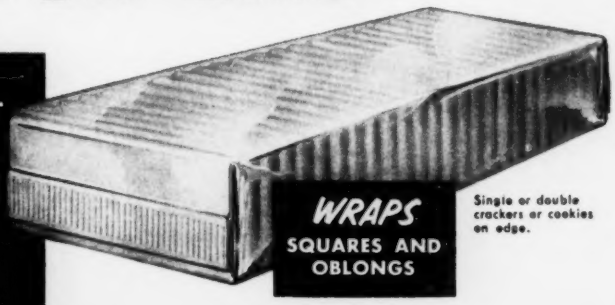
NOW—All the benefits of high speed packaging with WAXED PAPERS are yours!

Automatic **CAMPBELL** Wrapper

HEAT SEALS

economical waxed paper packages at production speeds up to—

125 Units per minute!



WRAPS SQUARES AND OBLONGS

Single or double crackers or cookies on edge.

WRAPS ROUNDS AND OVALS

Round or oval cookies on edge.

Wraps crackers, cookies, biscuits and other products *on edge, stacked or flat in rows* seals flavor and freshness in!

WRAPS IRREGULAR SHAPES

Biscuits and cookies flat or stacked in rows.

Extra flavor and freshness protection, superior resistance to grease and fats, positive heat sealing, easiest to open and reclose — and *economically low in cost!* All these WAXED PAPER packaging benefits *and more* are yours to profit by with this latest model CAMPBELL Wrapper. For the first time, you can speed-wrap in continuous feed such products as crackers, cookies, biscuits, etc. in neat, eye-appealing arrangements of whole or fractional size *unit packs* — products heretofore difficult to wrap with any degree of production speed. Yes, thanks to the Automatic CAMPBELL Wrapper, a whole new range of package possibilities are yours to exploit. Get the details on this newest of all CAMPBELL wrappers, today!

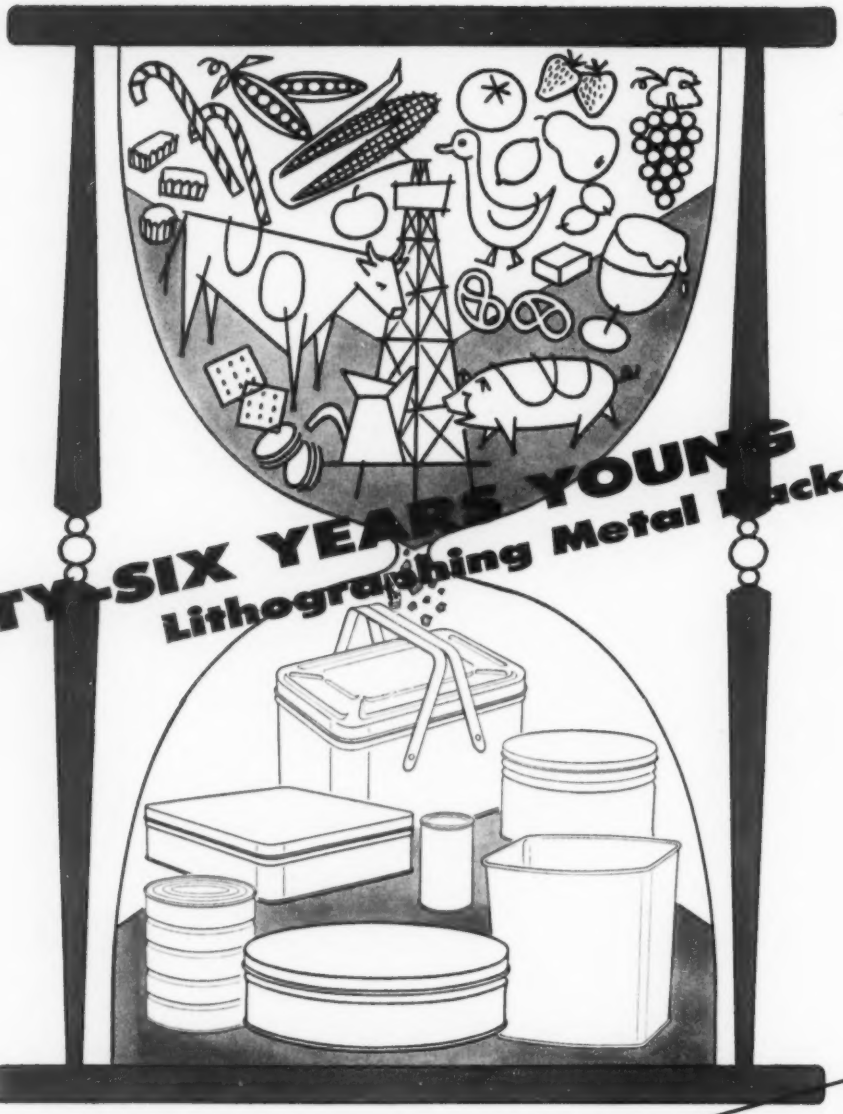
SAVES YOU MONEY, TOO — Wraps without boards, trays or stiffeners, *unless desired* — Eliminates need for costlier pre-made bags — Requires only one person operation — Prolongs product shelf-life and reduces returns by completely sealing flavor and freshness in. Feeds and deliveries available to meet every production need.

fmc FOOD MACHINERY AND CHEMICAL CORPORATION

For complete specifications, write:

FMC PACKAGING MACHINERY DIVISION

Hudson Sharp Machine Company • GREEN BAY, WISCONSIN



FIFTY-SIX YEARS YOUNG

Lithographing Metal Packages

Progressive Service

FOR HUNDREDS OF HEEKIN CAN USERS

In this racing, competitive, surging country of ours a company with fifty-six years of successful growth has within its history many plans, problems and successes. These become powerful assets to our customers when they meet with Heekin engineers, designers, service and production experts and merchandising consultants to discuss their own problems. Heekin has fifty-six years of successful operation, one of the youngest "top brass" organizations in the packaging industry. If that type of service appeals to you, let's get acquainted.

HEEKIN

Product Planned

CANS

THE HEEKIN CAN CO. *PLANTS IN OHIO, TENNESSEE & ARKANSAS*

SALES OFFICES; CINCINNATI, OHIO; SPRINGDALE, ARKANSAS

MULTI-PURPOSE FLEXOTUF

For new high gloss at new high press speeds on:

•

MYLAR
TREATED POLYETHYLENE

•

SARAN
COATED CELLOPHANES

•

TREATED
ALUMINUM FOIL

•

MOST GRADES OF
MOISTURE PROOF
CELLOPHANES

•

ACETATE

•

POLYSTYRENE

•

New higher press speeds • Extra high gloss
Excellent printability • High block resistance
Superior moisture resistance • Resists foaming

Over 2 full years of commercial testing have gone into the proving of remarkably versatile Flexotuf. These new inks combine features never before present in the ordinary run of Flexo inks. They offer almost unbelievable block and moisture resistance, as well as exceptional gloss; rich colors never before possible give a new dimension to "eye appeal." Many of our customers report that with these new inks they turned out the finest jobs ever produced in their plants. What's more, Flexotuf replaces the several inks previously needed for this type of package printing, hence, tie up less money in inventories. See for yourself why Flexotuf is revolutionary! Call IPI now!

IPI, IC and Flexotuf are trademarks of Interchemical Corporation

INTERCHEMICAL PRINTING INK
CORPORATION DIVISION

EXECUTIVE OFFICES: 67 W. 44th ST., NEW YORK 36, N. Y.

Who knows about SPECIAL ADHESIVES for MYLAR* laminations?

Mylar adhesives have to be as versatile as the famous polyester film itself. Bond strength, clarity, resistance to light, even flow for machineability, affinity for a variety of surfaces . . . all are features needing careful control.

At Angier Adhesives, hundreds of laboratory and test hours have been focused on Mylar adhesives alone. There is an Angier adhesive for laminating Mylar to itself or to most other materials . . . to sheet metal as a lining . . . to aluminum foil as a vapor barrier . . . to leather as a surface protective . . . to vinyl film for decorative purposes . . . to asbestos paper for wire insulation, etc.

Who knows about Mylar adhesives? We ought to have most of the answers you need. Try us.

*MYLAR is DuPont's registered trademark for its brand of polyester film.

Write for more information on Angier's SB-6300 Mylar Adhesive Series.

For EVERY Industry: Latest developments in adhesives for Sandwich Panel Construction, Vinyl Film Bonding, also Rubber, Latex and Resin Cements, Pressure Sensitive Cements, Flocking Cements, Laminants, Sealants, Tie Coats and Resin Emulsions.

ANGIER ADHESIVES

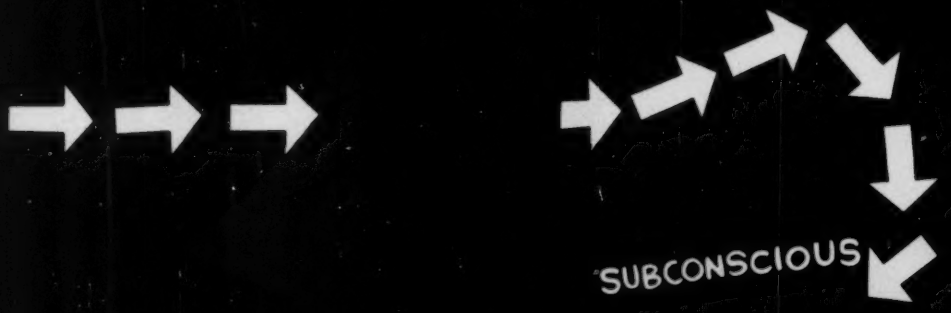
Angier Adhesives

Division of Interchemical Corporation

120 POTTER STREET, CAMBRIDGE 42, MASS.

Midwestern Plant:
Huntington, Indiana

Impulse buying is psychological!



• • • To create profitable, *extra* impulse sales, your food product wrappers must appeal instantly and favorably to a shopper's emotions . . . to her *subconscious mind!* And with Western-Waxide's proved Taste Excitement concept of package design, your products *stand out* on crowded supermarket shelves. They explode their "buy me" sales message *subconsciously*—compelling shoppers to make impulse purchases of *your* food products on the spot!

Taste Excitement scientifically combines color, brand identification and mouthwatering serving suggestions into a "package personality" for your food products. To create *extra* impulse sales, bring your packaging problems to Western-Waxide or consult a qualified independent package design expert.

Increased Sales... by Design!

Manufacturers or converters of plain and printed waxed paper; foil; foil laminates; polyethylene coated paper and poly-film laminates; films; bags; pouches and other specialized packaging materials.

CROWN ZELLERBACH CORPORATION

WESTERN-WAXIDE SPECIALTY PACKAGING DIVISION

PLANTS AND SALES OFFICES: SAN LEANDRO AND LOS ANGELES, CALIFORNIA • NORTH PORTLAND, OREGON • ST. LOUIS AND KANSAS CITY, MISSOURI
SALES SERVICE OFFICES: Akron • Atlanta • Chicago • Cincinnati • Dallas • Denver • Memphis • New York City • Omaha • Salt Lake City • Spokane • Seattle

© CZ-1292C-WW

HOW *Inland* DESIGN LEADERSHIP SAVES YOU MONEY

● Inland designers joined with the engineers of this large appliance manufacturer* and created a corrugated shipping container for electric ranges to meet the special requirements of their high speed production line and modern warehousing methods.

One of the important *plus values* of the container they developed was its ability to fully protect the ranges—even when they travel *face down*. This revolutionary practice makes it possible to substantially increase the carload quantity of ranges by utilizing top space formerly wasted but paid for under minimum weight requirements. These additional ranges, occupying previously "left over" space, travel to their destination free.

Your Inland package engineer is a *corrugated shipping container specialist.* When your product packaging is entrusted to him, you can be sure you are getting the benefit of every possible packaging economy applicable to your product.

*Name on request.

CALL YOUR INLAND PACKAGE ENGINEER

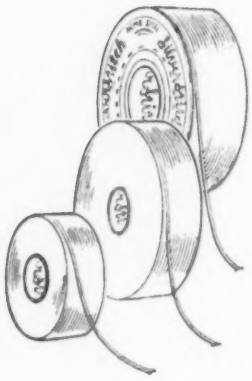
INLAND CONTAINER CORPORATION
INDIANAPOLIS 6, INDIANA
Corrugated Fiber Boxes

MILLS: Macon, Georgia; Rome, Georgia. **PLANTS AND SALES OFFICES:** Indianapolis, Indiana; Middletown, Ohio; Milwaukee, Wisconsin; Evansville, Indiana; Detroit, Michigan; Macon, Georgia; Erie, Pennsylvania; Ashtabula, Ohio; Orlando, Florida; Rome, Georgia; Biglerville, Pennsylvania; Dallas, Texas.

Other Sales Offices in Principal Cities · Consult Your Telephone Directory

CLOSURE IDEA BULLETIN

For Users of Fibreboard Boxes

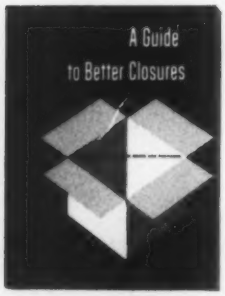


The larger coils of Acme Steel Stitching Wire allow longer continuous-stitching runs. Using 25 or 50-pound coils instead of 10-pound coils increases box closure production by cutting reloading downtime--simplifies inventory and stock handling, too.

Acme Steel makes holders for 25 or 50-pound wire coils. The positive brake action on these holders eliminates wire tangling, insures smooth feeding and braking. The Model P2B Holder holds either 10 or 25-pound wire coils. When used with the 25-pound coil, it dispenses up to 50,000 continuous stitches.

With the Acme Steel Model P1A0 Coil Holder, you can drive 100,000 stitches with only one brief threading stop. This holder holds two 50-pound wire coils. Wire feeds from the first coil while the second is ready for instant threading into the stitcher.

Acme Steel Colorstitch Wire adds to the sales appeal of your packages. Matching or contrasting the color design of the box with Colorstitch makes shelf-displayed goods more sales attractive. Colorstitch is available in ten chip-resisting, vinyl paint colors.



The box closure handbook, "A Guide To Better Closures" will provide a background for making basic decisions on box closure methods. It discusses the common box closure methods in a factual, easy-to-read style.

Your Acme Idea Man is thoroughly experienced in fibreboard box closure. And, his closure know-how is backed by the 75 years Acme Steel has helped industry solve closure problems.

Write to Dept. MDW-107, Acme Steel Products Division, Acme Steel Company, Chicago 27, Illinois.

ACME STEEL WIRE STITCHING

MERCURY MACHINES—PACESETTERS FOR THE FOLDING CARTON INDUSTRY

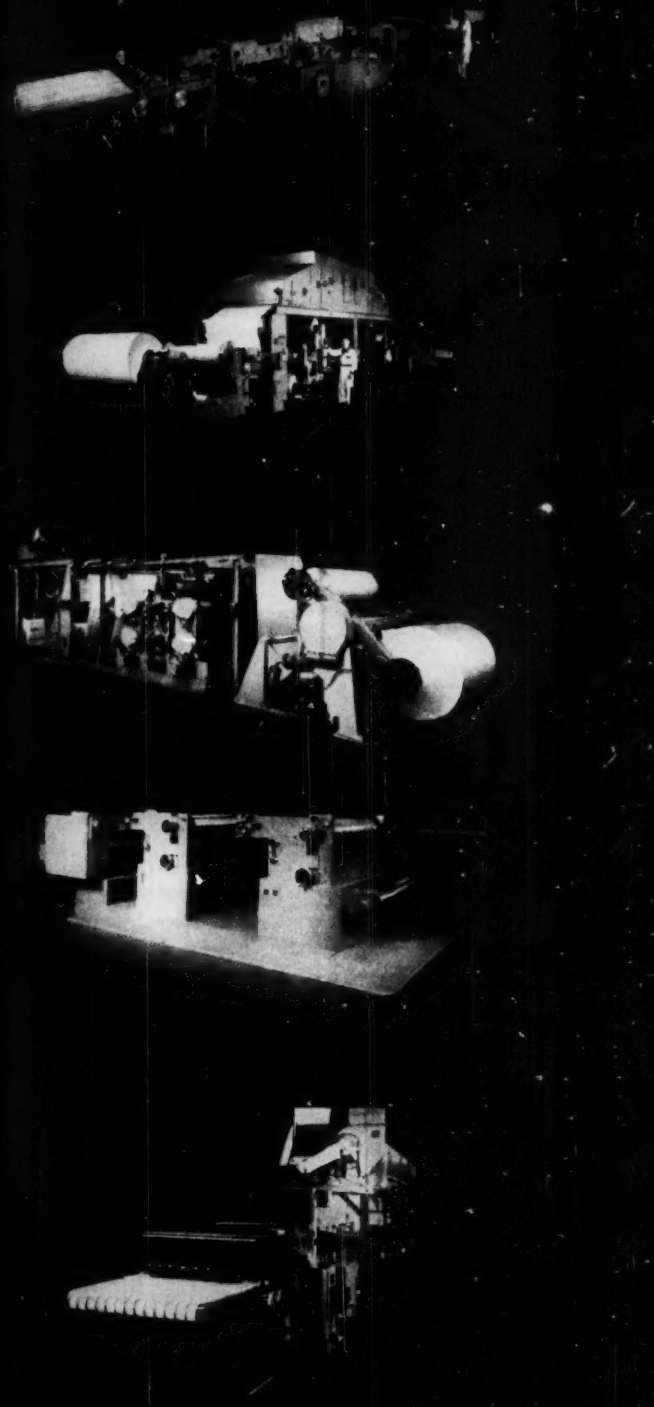
SINCE 1933

A Symbol of fine
CRAFTSMANSHIP

World Leadership in Web-Fed, In-Line Production Equipment

Mercury

Cutting	Laminating
Creasing	Embossing
Printing	Rotary Stripping
Drying	Rotogravure



Mercury IN-LINE machines prove their worth every day — on the job all over America. With Mercury you achieve new peaks of profitable production . . . you get IN-LINE with today's needs and tomorrow's demands. Every machine bearing the Mercury Emblem is designed by men who know the needs and preferences of paper converters. For short runs or long — for complex or simple jobs — Mercury equipment is unsurpassed, always giving long, dependable service . . . around the clock performance, year in and year out.

Profit Producing Machinery for Paper Convertors

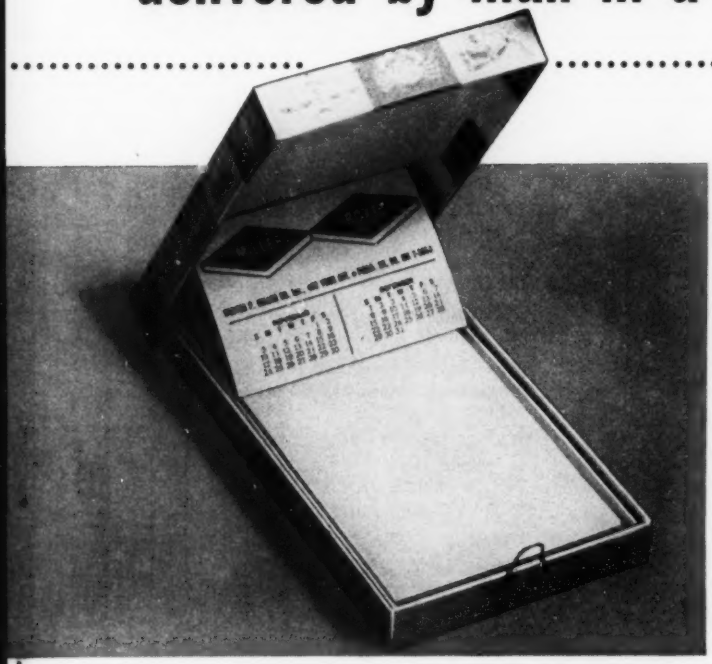
Sealed box, as delivered by the mailman. Box-wrap can be printed to your own design. Or we can give you the design shown above for use with your label.

WALTER P. MILLER COMPANY, INC.

402 York Avenue, Philadelphia 23, Pa. Telephone MArket 7-2600

MEMBER
19th Annual Forum
Oct. 28, 29, 30, 1957
Hotel Statler
New York City

delivered by mail in a MILLER BOX



Remove the lid and the bi-monthly calendar panel "pops up" for easy visibility on desk or telephone table. Thumb-cut container holds supply of useful memo-sheets.

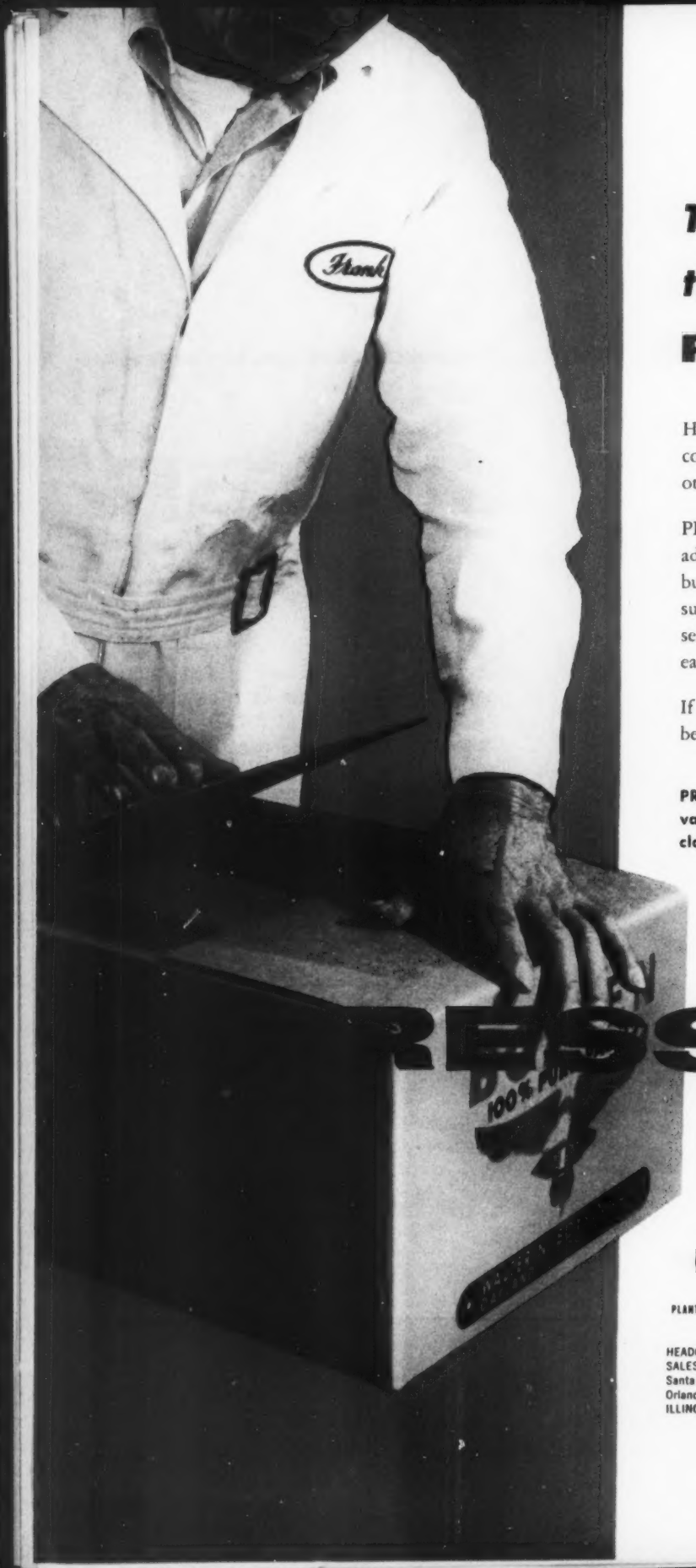
Have we developed something better than the female form as a subject for calendar art? Of course not!

But we *have* developed a new technique in the art of the promotional calendar. We crossed a calendar with a scratchpad and produced a useful novelty that has a knack of staying on the desks of customers and prospects.

This calendar-scratchpad, mailed every two months, was first used to promote our own box-making service. Before long, some of our friends and customers asked us to make similar boxes for their promotional use.

We'll be glad to do the same for you. Prices on request. But the central message of this advertisement is this: if you're looking for new and ingenious ideas in set-up paper boxes, the name to remember is Miller!

designers and manufacturers of set-up paper boxes



The Carton that Seals Itself...

PRESSEAL!

Here's the modern, easy-to-use carton which completely eliminates tapes, glue, staples, and other sealing equipment.

PRESSEAL carton flaps are factory treated to adhere together with the quick press of a hand, but these same flaps will not stick to any other surfaces. PRESSEAL cartons remain tightly sealed during shipment or storage, yet open easily with a firm tug.

If you're packing in corrugated cartons, you'll be packing better with PRESSEAL!

PRESSEAL can be used with an infinitely wide variety of products including: floor tiling • paint clothing • tools • stationary supplies • industrial parts • toys • medical supplies • candy packaged foods • and many others

For Information on

PRESSEAL©

PATENTS PENDING

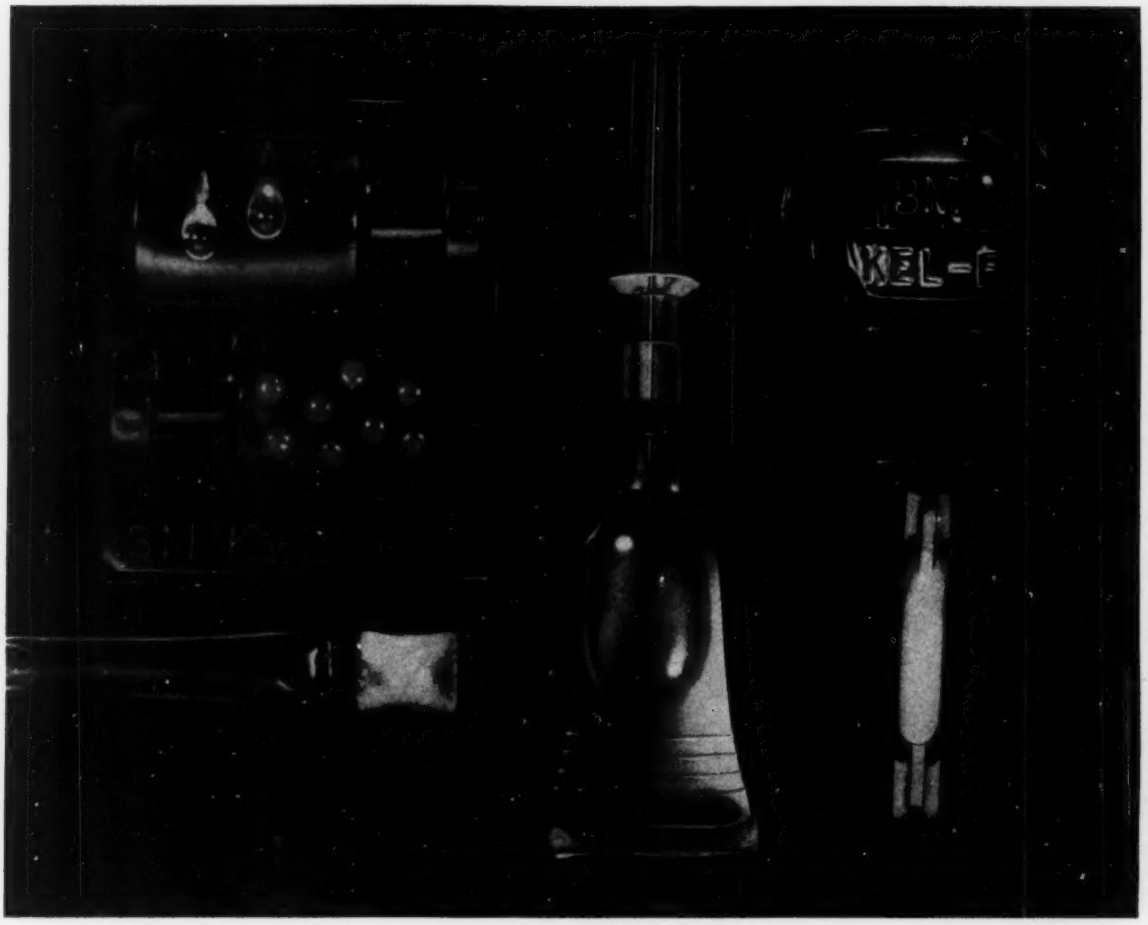
Write to

GROWERS CONTAINER CORPORATION

PLANTS IN SALINAS AND FULLERTON, CALIFORNIA AND JACKSONVILLE, FLORIDA

HEADQUARTERS in SALINAS, CALIFORNIA
SALES OFFICES – CALIFORNIA: Salinas, Fullerton, San Francisco, San Jose, Santa Rosa, El Centro, Fresno • FLORIDA: Jacksonville, Tampa, Miami Springs, Orlando • ARIZONA: Phoenix • LOUISIANA: New Orleans • GEORGIA: Atlanta ILLINOIS: Chicago • ALABAMA: Birmingham • SOUTH CAROLINA: Greenville

3M Chemicals opening new worlds of use for film



Impermeable, inert KEL-F® *films create new packaging opportunities*

Now film packaging opportunities are unlimited for pharmaceuticals . . . and for many other types of products, too.

The reason? Radically new films and tubing made of "KEL-F" trifluorochloroethylene polymer. For the first time, "KEL-F" films open up to a broad range of pharmaceuticals all the advantages of film packaging.

Unplasticized, plasticized or radiant-resistant grades offer:

- **complete impermeability, even to formaldehyde and medical alcohol**
- **exceptional chemical inertness, safeguarding purity of package contents**
- **extraordinary anti-sticking properties**
- **ability to withstand radiant sterilizing of contents**
- **great strength and flexibility, plus resistance to age and both high and low temperatures**
- **ability to be heat- and radio-frequency-sealed**
- **exceptional clarity**

What's more, "KEL-F" films and tubing form packages that are shatter-proof, more compact and lighter weight.

No other film offers this unique combination of exceptional properties. Consider the unusual, new packaging opportunities they create for you!

Leading film producers make "KEL-F" films and tubing from "KEL-F" trifluorochloroethylene polymer (a 3M chemical product). Write for free information to: Chemical Products Group, Dept. WA-107, 3M, St. Paul 6, Minn.

JERSEY CITY CHEMICAL DIVISION • CHEMICAL PRODUCTS GROUP

MINNESOTA MINING AND MANUFACTURING COMPANY

. . . where Research is the key to tomorrow

3M COMPANY CHEMICALS

New patented Gaylord box—approved for glassware at more than twice the maximum shipment weight previously allowable for corrugated.

NEED EXTRA CARE . . . LESS TARE?

Gaylord Boxes

Here's another example of how Gaylord helps shippers cut costs. Strong, shock-absorbing corrugated packaging replaces heavier materials —with complete protection.

Savings like this might well roll back new increases in costs that are shrinking your profit margins.

To put <u>your</u> savings into effect, call your nearby Gaylord packaging engineer right now.

CORRUGATED AND SOLID FIBRE BOXES • FOLDING CARTONS • KRAFT PAPER AND SPECIALTIES • KRAFT BAGS AND SACKS

GAYLORD CONTAINER CORPORATION ★ ST. LOUIS

Now you see it...

now you don't!

Mono-Sol's **new 100% water-soluble** Packaging Film

Your product takes on unusual customer appeal, provides absolute quantity control and comes to the user in the simplest dispenser possible . . . when you bag or wrap with Mono-Sol internally plasticized Polyvinyl Alcohol Film.

Just drop a package into hot or cool water and stir—quickly, *completely* it dissolves, releasing its contents into the solution. Exceedingly strong, Mono-Sol PVA Film is oil, aromatic and petroleum solvent resistant, impermeable to *oxygen* and many other gases. It's stable, too—won't melt in high humidities, won't crack in low humidities.

Heat-sealable, Mono-Sol PVA Film can be used on most standard package filling and sealing machines with little modification.

For full details send us the coupon clipped to your letterhead. Sample bags and technical data will be promptly sent to you.

Here Are Only a Few of the Many Items That Can Be Packaged Perfectly in Mono-Sol PVA Film:

- Soaps
- Insecticides
- Sodium Bicarbonate
- Medicinals
- Sodium Hyposulphite
- Detergents
- Naphthalene
- Dyes
- Trisodium Phosphate
- Oils
- Greases

MONO-SOL CORPORATION
407 COUNTY LINE ROAD / **GARY, INDIANA**

MONO-SOL CORPORATION
407 County Line Rd., Gary, Indiana

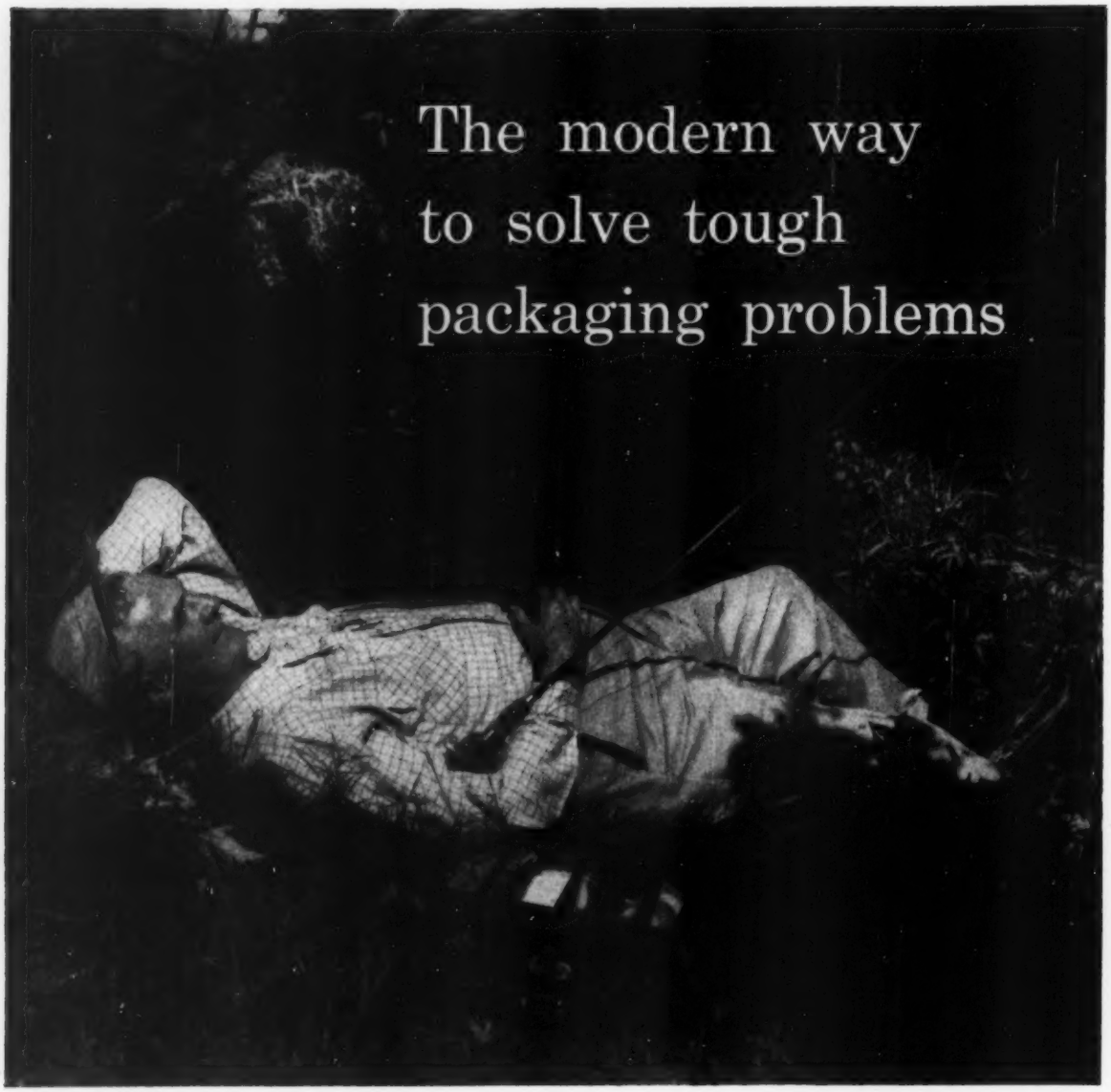
Please send us bag samples and full technical data.
We are interested in Mono-Sol PVA Film for packaging_____

Name_____ Position_____

Company_____

Address_____

City_____ Zone____ State_____



This man has a tough packaging problem.

Is he worried? No. Hiking his blood pressure? No. Driving his associates nuts? Not a bit.

Is he solving his problem? YES. He's doing it the modern way . . . he's given it to Bemis Packaging Engineers.

Bemis can contribute experience, facilities and know-how to an amazing range of packaging problems. Does your product need special protection . . . or sales "oomph" . . . or a more economical package? Is your product of unusual shape or size, and thus difficult to package? Do you need economical, efficient package filling-and-closing machinery?

What *is* your problem? Our engineers can probably work out the *right* answer for you. Write us.

General Offices—408 Pine Street, Box 49, St. Louis 2, Mo.—Sales Offices in Principal Cities

Bemis

CAN BANDS INCREASE TOTAL SARDINE SALES

3-pack scores highest in 16-week supermarket test

By how much does multiple packaging increase total sales of a food item without special promotions?

Which unit packs are most effective?

These were 2 of the questions which led the Maine Sardine Council to sponsor a marketing test in 8 Best Markets in the Philadelphia metropolitan area. The brand used was Royal River Maine Sardines. Container Corporation of America developed and furnished the 3-, 4- and 6-pack Can Bands®.

Increases were measured per 1000 customer checkouts. The best record was made by the 3-pack Can Band when offered without loose cans on the shelves —a 35% increase. A 31% increase was scored by the 4-pack and 6-pack Can Band when displayed alongside loose cans.

CCA continuously participates in objective market tests to determine trends in consumer preference of multipacks which will best serve your needs.

Details and analysis of this test are available now. Fill in the coupon and send for your copy today.

CONTAINER CORPORATION OF AMERICA

38 South Dearborn St., Chicago 3, Illinois

Please send me without charge full details and analysis of the multiple packaging test sponsored by the Maine Sardine Council.

*Name*_____

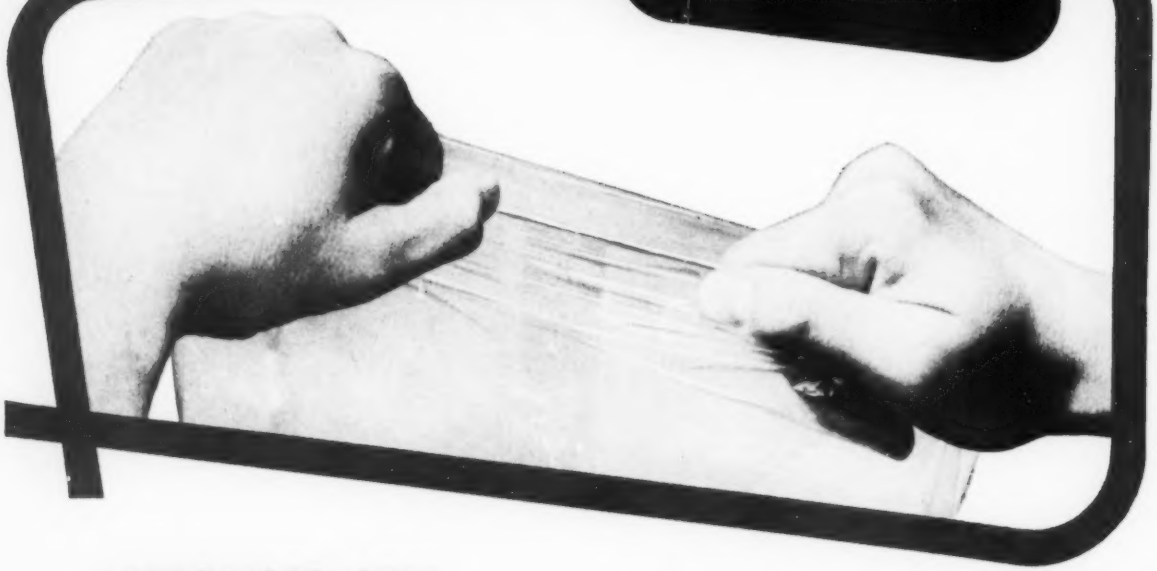
*Position*_____

*Company*_____

*Address*_____

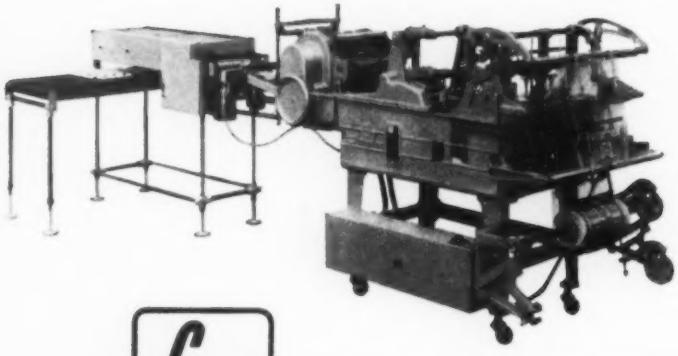
*Product(s)*_____

SIMPLEX-MADE BAGS SELL EASIER! STAY SOLD!



- **STRONGER SEAL**
- **MORE SALES APPEAL**
- **HIGHER PRODUCTION**

With Simplex's exclusive stop and seal action you can produce a sealed seam as strong as the bag itself—and that's what packagers of potatoes, apples, oranges, chemicals and other heavy products want. This means you can make more sales with Simplex-made bags. And your customers *stay* sold! You gain too—with automatic stacking-counting-sorting which lets just one operator handle more than one machine. Less rejects, less film waste, plus higher output give you lower cost per thousand. Get *all* the reasons why Simplex Polyethylene Bag Making Equipment gives you most for your money invested. *Write today for complete details.*



SIMPLEX MODEL 4-7 POLY BAG-MAKING MACHINE

Fully automatic bag stacker shingle stacks bags in piles of 10, 25, or 50 with variable spacing. Available for right, left or end delivery. Automatic counter registers total run.

Other Simplex models produce *Side-Weld* bags; and *Curv-Seal* bags.

fmc
FOOD MACHINERY AND CHEMICAL CORPORATION

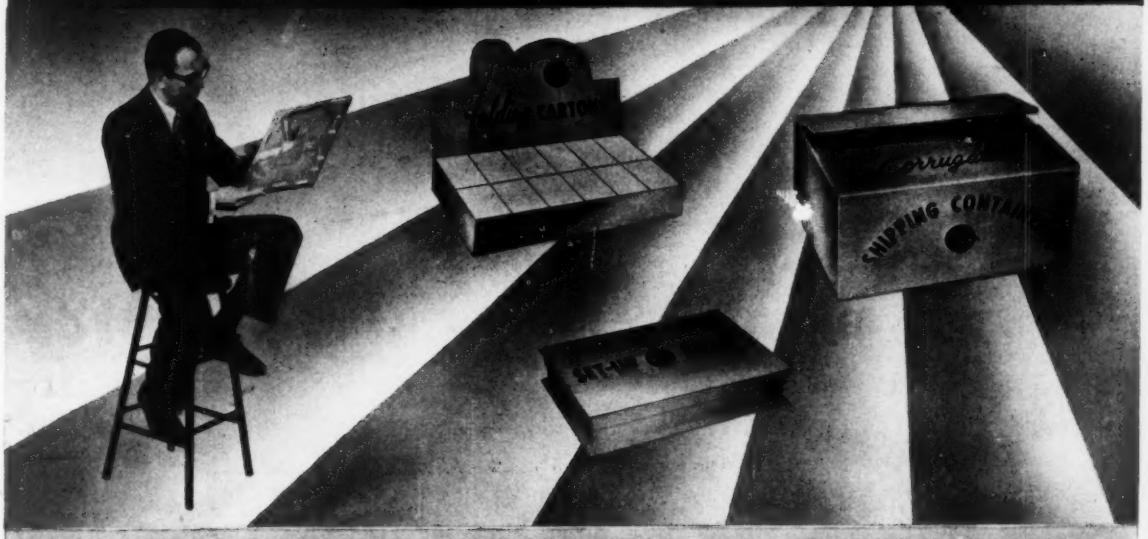
for details on ***Simplex*** *equipment write to*

FMC PACKAGING MACHINERY DIVISION

Foreign Sales: FMC Export Dept., P. O. Box 760, San Jose 6, Calif.
(Cable Address: FOODMACHIN)

534-23rd AVENUE
OAKLAND 6, CALIF.

MORE PROFIT
CENTRAL FIBRE



See CENTRAL FIBRE *for Packaging Showmanship*

Packaging showmanship attracts attention to packages and helps sell products—often at no additional packaging cost.

Let Central Fibre show you how the magic of showmanship can be added to your product

As a consolidation of some of the oldest paperboard mills and box plants in America, Central Fibre represents a considerable wealth of skill and know-how. Central Fibre's unusual growth in recent years reflects its great vitality.

Central Fibre can convert this know-how and vitality into better showmanship for your package and greater sales and more profits for you.

CENTRAL FIBRE SERVES AMERICA FROM 21 CONVENIENT CITIES

PAPERBOARDS AND SPECIALTIES
CORRUGATED SHIPPING CONTAINERS
FOLDING CARTONS AND SET-UP BOXES
EGG PACKING MATERIALS
POULTRY HOUSE SUPPLIES
MAPES MOLDED PULP PRODUCTS

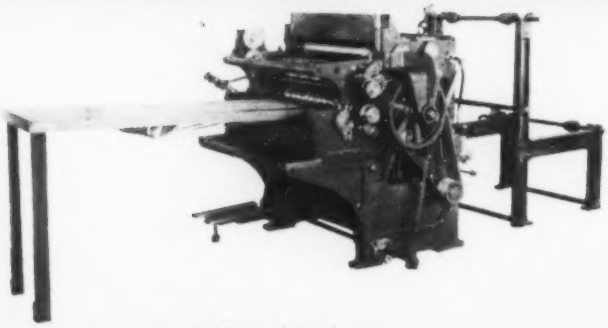
★ Central Fibre

More Than 80 Years of Continuous Service and Progress

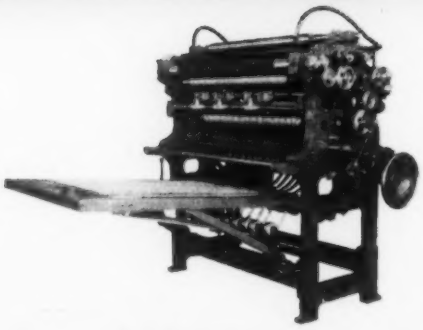
CENTRAL FIBRE PRODUCTS COMPANY

General Office Quincy, Illinois

THESE FOLDERS ARE DELIVERING

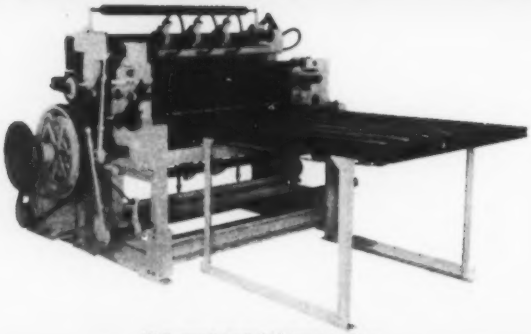


Facial tissue interfolder

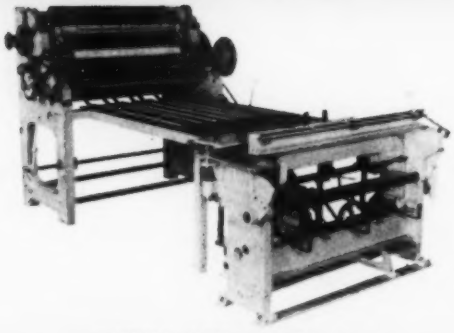


Wax paper interfolder

THE PERFORMANCE WE PROMISED

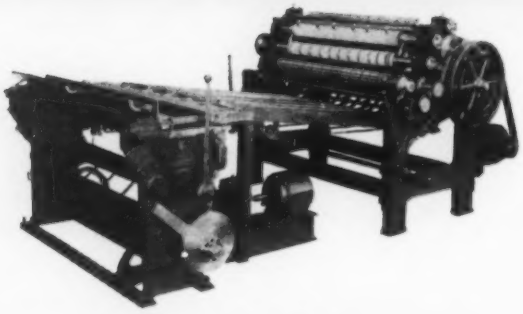


High speed singlefold towel machine

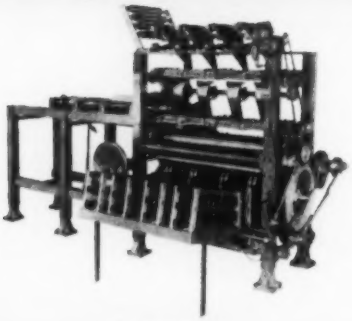


Multifold towel folder and package press

ASK THE COMPANIES THAT OWN THEM



Doublefold toilet tissue interfolder



C-fold towel folder

printing presses, rewinders, embossers, folders,
napkin and core machines and special converting machines

PAPER CONVERTING MACHINE COMPANY

GREEN BAY, WISCONSIN

PCMC

TENTH ADVERTISEMENT OF A SERIES ... THE HISTORY OF GLASS ...

1830

Development of the canal system, which served this country so well before railways took over the burden of transportation, enabled many glass houses to settle permanently for the first time. Previously, because of the exorbitant cost of overland freight, enterprising bottlemakers had been forced to move frequently in an attempt to remain in the center of their "market area."

Today, from three modern, strategically-located plants, Metro serves bottlers and packers in all parts of the country, offering famous and dependable METROmatic service ... an assurance of quality glass containers, delivered on an unfailing schedule, always geared to specific production requirements.

METRO GLASS COMPANY, INC.

MANUFACTURERS OF QUALITY GLASS CONTAINERS

WASHINGTON, PA. JERSEY CITY, NEW JERSEY CHICAGO, ILL.

new for skin packaging...premium quality

REYNOLON

TRADE MARK

cast vinyl film

super clear! sparkling bright! exceptionally tough!

The brilliant clarity and durability of new Reynolon cast vinyl film are prime features that mean maximum sales appeal and quality in skin packaging applications. This new film is also chemically inert, has low moisture vapor and gas transmission rates, is heat or electronically sealable, printable, odorless and non-toxic.

Investigate this new Reynolon film for quality skin packaging of hardware, toys, novelties, wearing apparel and a host of other products.

For details on this film and on other Reynolon plastic films, call the plastics specialist in the Reynolds office in New York, Camden, Detroit, Chicago, St. Louis or Los Angeles. Or write Plastics Division, Reynolds Metals Company, 30 Boulevard Avenue, Grottoes, Virginia.

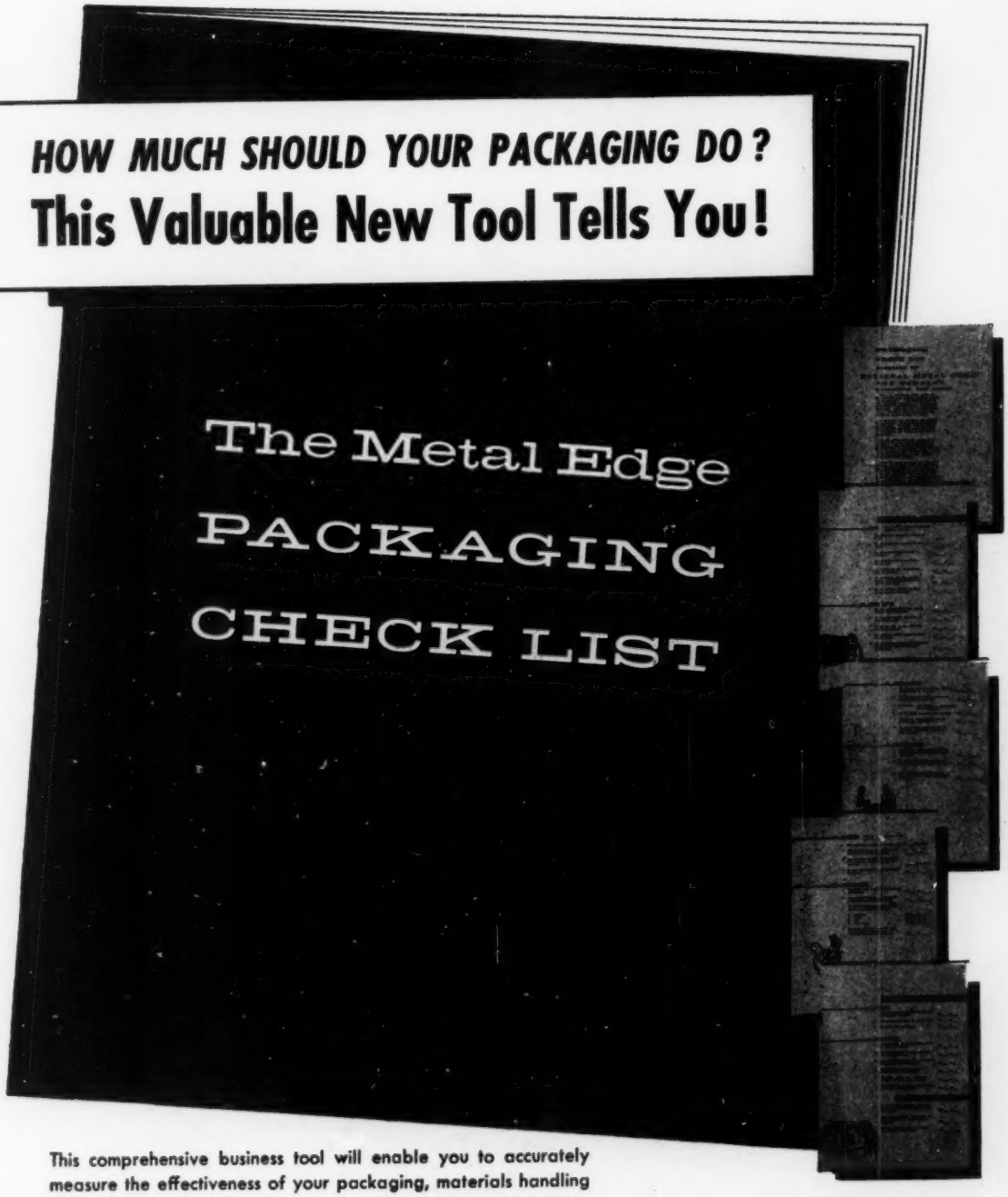
polyvinyl alcohol films for—
BAG MOLDING
METAL BONDING
SOLUBLE PACKAGING

polyvinyl chloride films for—
SKIN PACKAGING
INFLATABLES
OXYGEN TENTS
GLASS SUBSTITUTES
PROTECTIVE COVER PRODUCTS

PLASTICS DIVISION
REYNOLDS METALS COMPANY

Watch Reynolds All-Family Television Program "DISNEYLAND", ABC-TV

HOW MUCH SHOULD YOUR PACKAGING DO?
This Valuable New Tool Tells You!



This comprehensive business tool will enable you to accurately measure the effectiveness of your packaging, materials handling and inventory control programs . . . and to implement cost-cutting improvements!

NATIONAL
METAL EDGE BOX
COMPANY

Barrington, New Jersey

Packaging, Materials Handling, Inventory Control Engineered to Specific User Needs For the Leaders in over 100 Industries.

Send For Your Free Copy

National Metal Edge Box Co.
Box #60, Barrington, N. J.

Gentlemen:

Please send me your "Packaging Check List". I understand there is no cost or obligation.

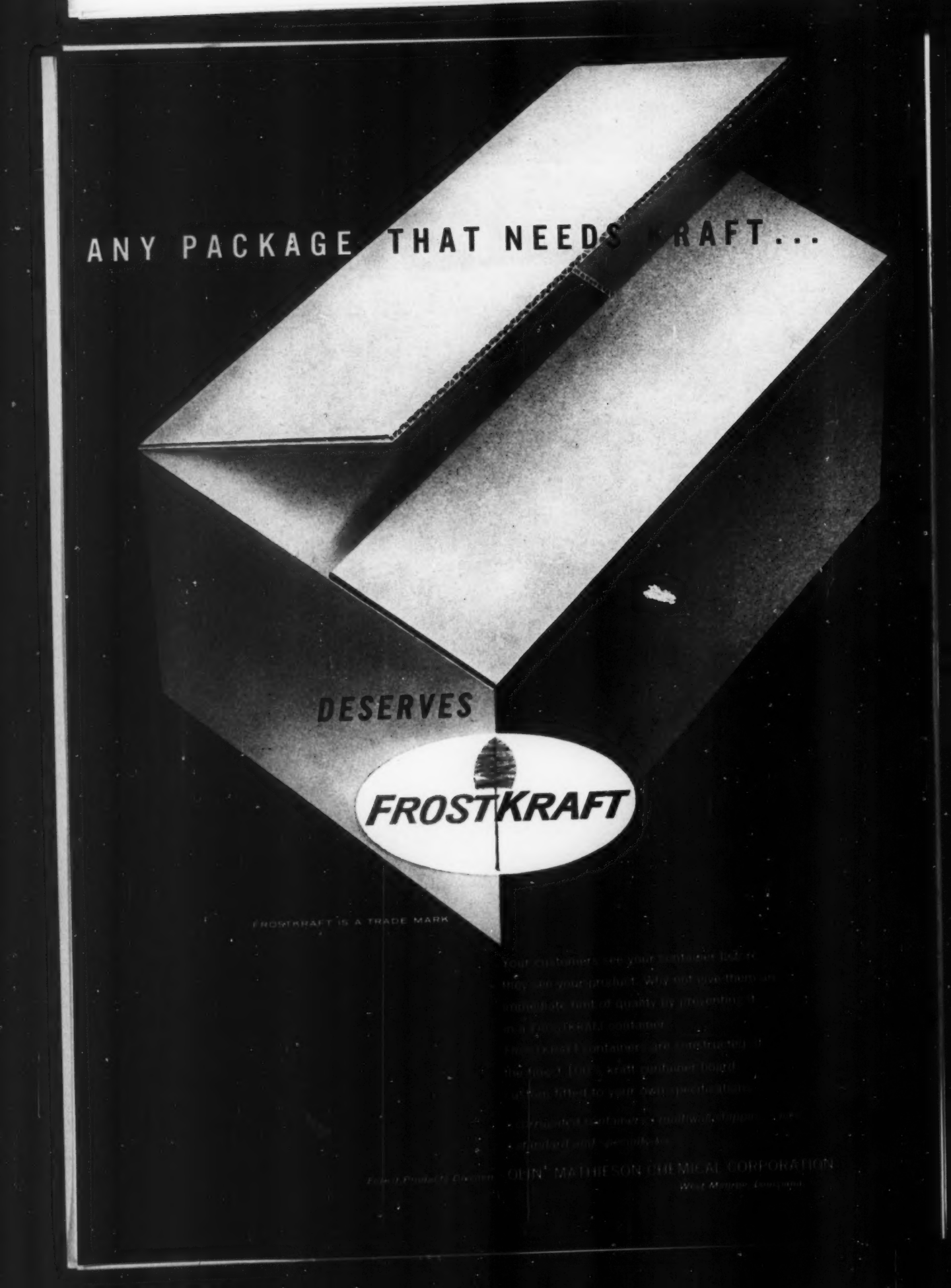
Name_____

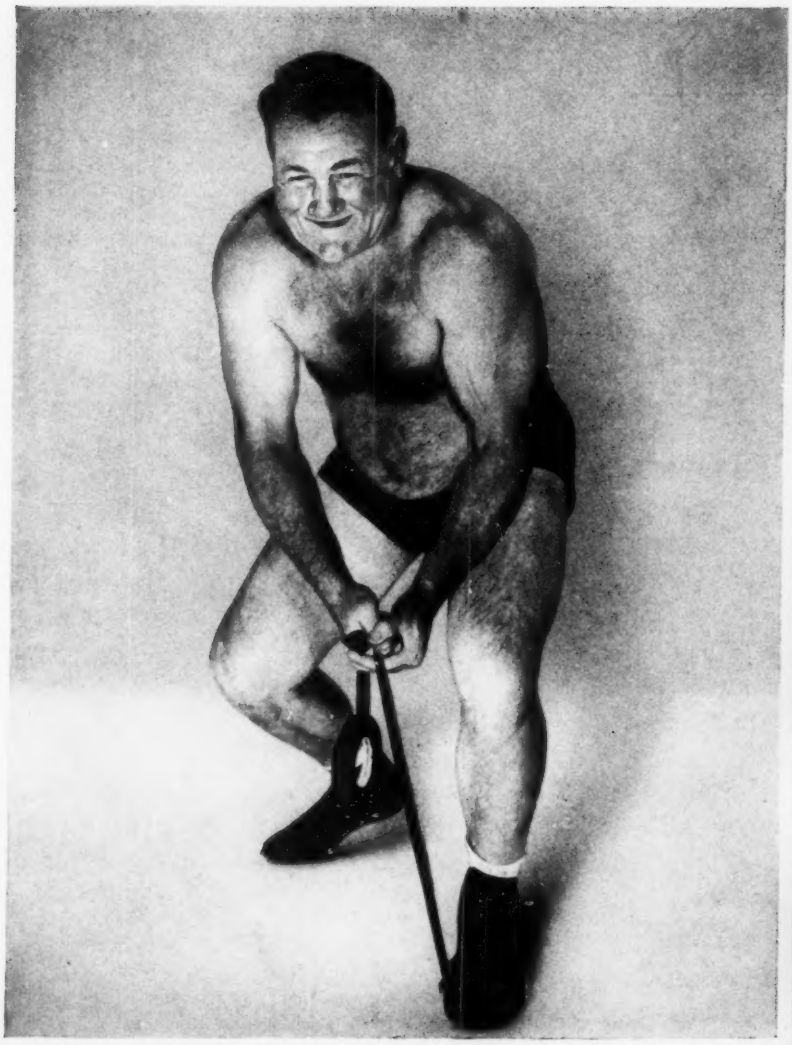
Position_____

Company_____

Address_____

City_____ Zone____ State_____


ANY PACKAGE THAT NEEDS KRAFT...
DESERVES
FROSTKRAFT
FROSTKRAFT IS A TRADE MARK



World's strongest tape?

Even wrestler Bronko Nagurski can't break it! "SCOTCH" Brand Filament Tape is amazingly strong, super shock-resistant. Thousands of filaments imbedded in the pressure-sensitive adhesive give it up to 500 lbs. tensile strength per inch of width. Four colors: Red, Blue, Black, White and Transparent. Ask your regular tape distributor how you can use it for heavy-duty packaging, or write us direct. Always specify "SCOTCH" Brand, the *quality* tape . . . and *stick* with it!

FILAMENT TAPE . . . *one of over 300 Pressure-Sensitive Tapes, trademarked* . . .

WORLD'S LARGEST MAKER OF PRESSURE-SENSITIVE TAPES

7800 TIMES AROUND THE WORLD . . .

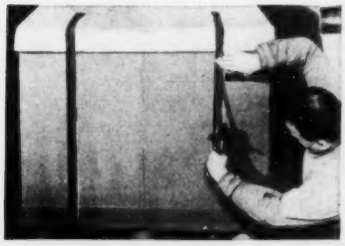
1957 TWO BILLIONTH ROLL YEAR 1957

REG. U.S. PAT. OFF.

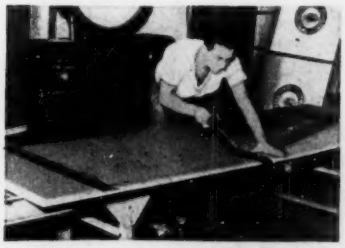
SCOTCH
BRAND

Look what you can do with it!

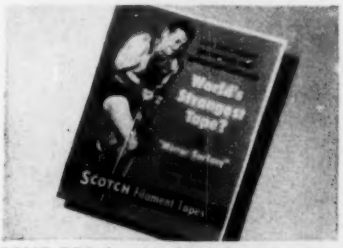
HARD-TO-HANDLE materials, such as paper sheets in bulk, can be easily packaged using "SCOTCH" Brand Filament Tape. Super-strong tape both seals and reinforces covering.



LARGE cartons and expendable pallets are easily closed and reinforced with "SCOTCH" Filament Tape. Tape won't cut workmen's hands; won't harm contents; is easily disposed of.



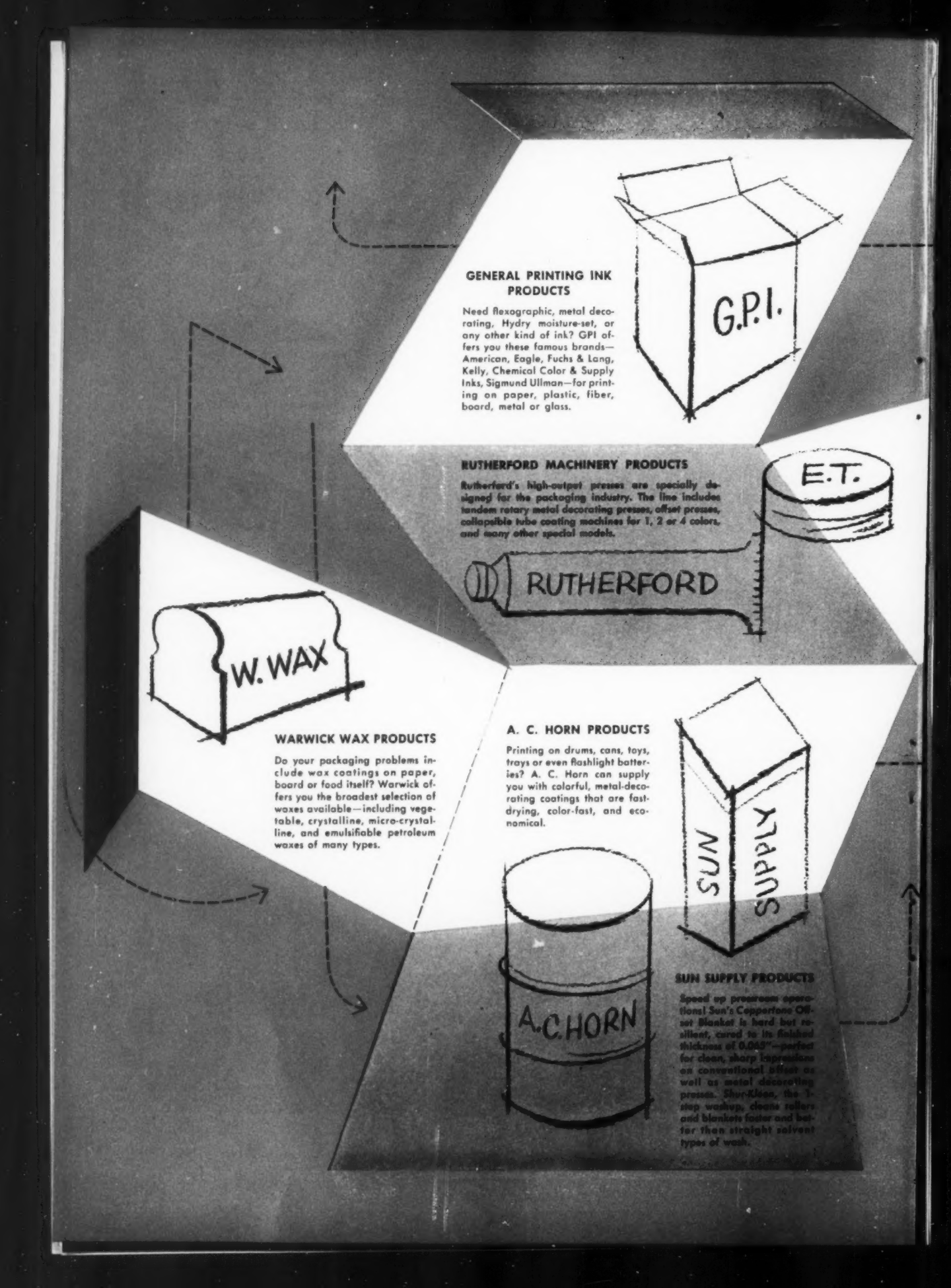
MAKE your own containers for odd-sized or odd-shaped products with fibreboard padding and "SCOTCH" Filament Tape. "Mirror surface" adhesive sticks at a touch; holds securely.



SEND FOR free booklet showing how "SCOTCH" Brand Filament Tape can help solve your heavy-duty packaging and materials-handling problems. Write on your letterhead to 3M Co., St. Paul 6, Minn., Dept. EA-107.

The term "SCOTCH" is a registered trademark of Minnesota Mining and Manufacturing Co., St. Paul 6, Minn. Export Sales Office: 99 Park Avenue, New York 16, N.Y. In Canada: P. O. Box 757, London, Ontario.

PRODUCTS OF 3M RESEARCH



GENERAL PRINTING INK PRODUCTS

Need flexographic, metal decorating, Hydry moisture-set, or any other kind of ink? GPI offers you these famous brands—American, Eagle, Fuchs & Lang, Kelly, Chemical Color & Supply Inks, Sigmund Ullman—for printing on paper, plastic, fiber, board, metal or glass.

RUTHERFORD MACHINERY PRODUCTS

Rutherford's high-output presses are specially designed for the packaging industry. The line includes tandem rotary metal decorating presses, offset presses, collapsible tube coating machines for 1, 2 or 4 colors, and many other special models.

WARWICK WAX PRODUCTS

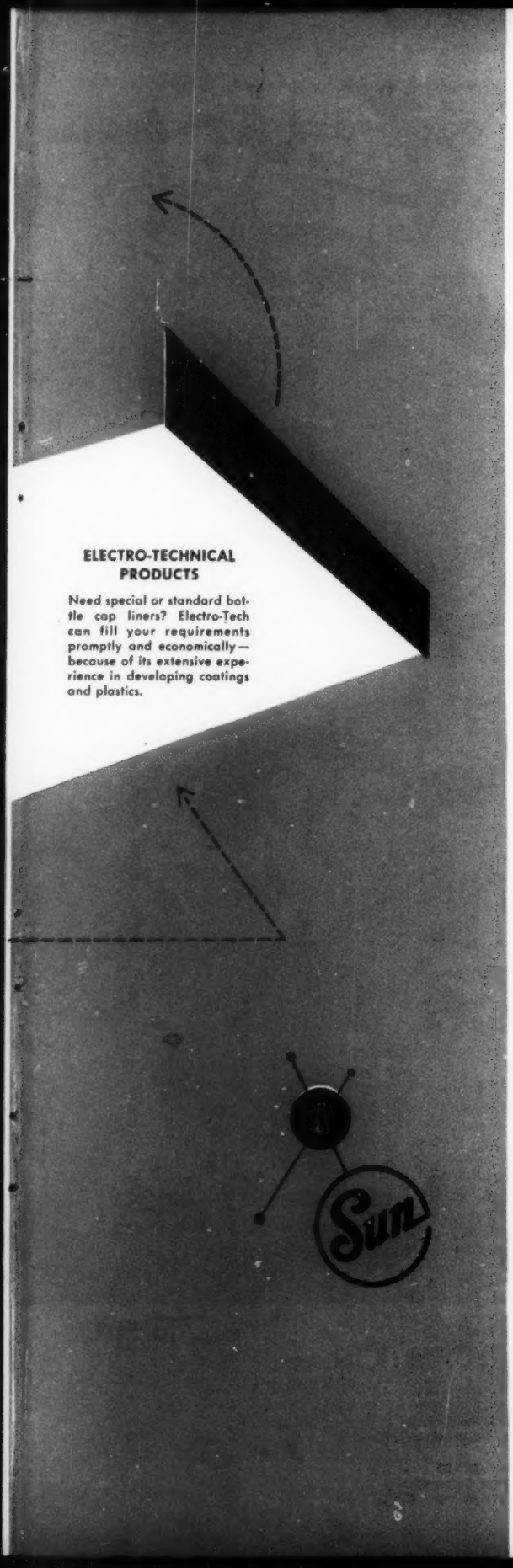
Do your packaging problems include wax coatings on paper, board or food itself? Warwick offers you the broadest selection of waxes available—including vegetable, crystalline, micro-crystalline, and emulsifiable petroleum waxes of many types.

A. C. HORN PRODUCTS

Printing on drums, cans, toys, trays or even flashlight batteries? A. C. Horn can supply you with colorful, metal-decorating coatings that are fast-drying, color-fast, and economical.

SUN SUPPLY PRODUCTS

Speed up pressroom operations! Sun's Coppertone Offset Blanket is hard but resilient, cured to its finished thickness of 0.065"—perfect for clean, sharp impressions on conventional offset as well as metal decorating presses. Shur-Klean, the 1-step washup, cleans rollers and blankets faster and better than straight solvent types of wash.


ELECTRO-TECHNICAL PRODUCTS
Need special or standard bottle cap liners? Electro-Tech can fill your requirements promptly and economically—because of its extensive experience in developing coatings and plastics.
Sun

new

Sun Service

for the packaging industry

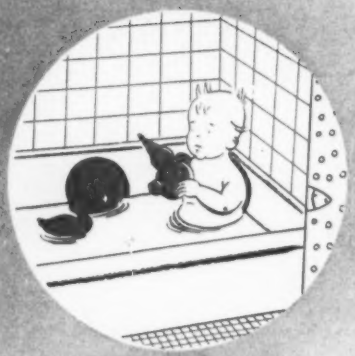
Need fast-drying, odorless inks, emulsifiable petroleum waxes, or collapsible tube coating machines? One of Sun's divisions can fill your packaging needs . . . with a complete line of inks, paints, waxes, special purpose presses, and pressroom supplies. Each division offers you expert technical assistance—that is broadened by constant, intensive cooperation between all divisions.

For help with your specific problem, call the nearest Sun Chemical office or write direct.

Sun Chemical Corporation
10th Street and 44th Avenue, Long Island City 1, N. Y.

DIVISIONS OF SUN CHEMICAL CORPORATION

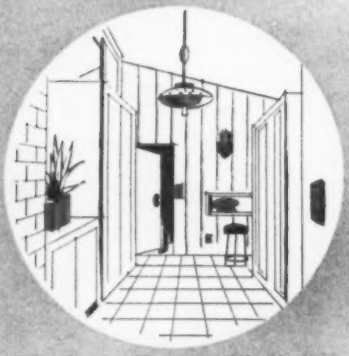
HORN (paints, maintenance and construction materials, industrial coatings) • **WARWICK** (textile and industrial chemicals) • **WARWICK WAX** (refiners of specialty waxes) • **RUTHERFORD** (lithographic equipment) • **SUN SUPPLY** (lithographic supplies) • **GENERAL PRINTING INK** (Sigmund Ullman • Fuchs & Lang • Eagle • American • Kelly • Chemical Color & Supply Inks) • **MORRILL** (news inks) • **ELECTRO-TECHNICAL PRODUCTS** (coatings & plastics) • **PIGMENTS DIVISION** (pigments for paints, plastics, printing inks of all kinds) • **OVERSEAS DIVISION** (export) • **A. C. HORN COMPANY, LIMITED** (Canada) • **GENERAL PRINTING INK CORPORATION OF CANADA, LIMITED** • **FUCHS & LANG de MEXICO, S. A. de C. V.**



Baby Playthings

Toddler Toys

Housewares



Modern House Fittings

Outdoor Living Aids

Containers & Packaging

Symbols of your potential

through Tupper Corporation

Premiums

● Whatever your custom needs in plastics manufacturing, call on Tupper's wide experience and modern manufacturing facilities. Our large, up-to-date plants, equipped with the best production machinery, are available for materials, injection molding, extruding, vacuum forming, blow molding—and other advanced processes.

The Tupper Engineering Department has developed the greatest number of patents in the industry for polyethylene seals, closures, and dispensers—and other items in other plastics. This know-how can be tapped by you to place your plastic products in a position of leadership.

Tupper seals and other Tupper products are protected against unauthorized manufacture by about 150 U. S. and foreign patents and patents applied for, plus numerous trademarks and copyrights.

Do-It-Yourself Materials

TUPPER CORPORATION

TUPPER! Trade-mark

Manufacturers of: CONSUMER, INDUSTRIAL, PACKAGING and SCIENTIFIC PRODUCTS

Factories, Laboratories and Sales Offices:
Massachusetts, Rhode Island, Florida, Montreal, New York

Address correspondence to:

Dept. MP-10
Tupper Corporation
Woonsocket, R. I.

or

Dept. MP-10
Tupper Corporation
225 Fifth Ave., N.Y.C.

BELIEVE IT OR NOT . . .

SOMETHING **NEW** IN CLOSURES!

LOCKS IN:

SIFT . . . POUR . . . AND CLOSED POSITIONS!

Developed by **CLEVELAND CONTAINER!**

Painstaking research and testing, before release to the industry, ensures the NEW is also GOOD! Our new closures of high grade polyethylene plastic are typical.

Hygenically clean, these closures provide "snap-locking" in any of three positions . . . sift, pour, closed . . . with more ease in turning than conventional closures.

Self-cleaning, as turned from one position to another, prevents build-up of contents of the can between undertop and closure. Tamperproof undertop may be provided.

- The larger size, ideal for packages of flour, baking powder, and similar products, also permits removal of a level tablespoon of the contents.
- The smaller size is best suited for cans packaging spices, medicinal powders, etc.
- Their attractiveness will definitely call attention to your products.
- Available in colors at small additional cost.
- Cleveland Container design engineers will be glad to assist you in adapting these NEW closures to your packaging program. Call or write our nearest plant.

Why pay more? For quality products . . . call CLEVELAND!

WRITE
for your copy of
our latest
Packaging Brochure.

THE **CLEVELAND CONTAINER COMPANY**

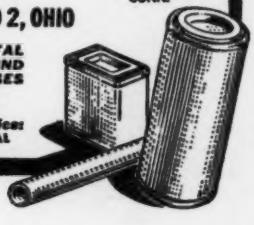
6201 BARBERTON AVE., CLEVELAND 2, OHIO

PLANTS AND SALES OFFICES: CLEVELAND, DETROIT, CHICAGO, MEMPHIS, LOS ANGELES, PLYMOUTH, WIS., JAMESBURG, N. J., OGDENSBURG, N.Y. • ABRASIVE DIVISION CLEVELAND

SALES OFFICES: NEW YORK CITY, WASHINGTON, D. C., ROCHESTER, N. Y., WEST HARTFORD, CONN.

• ALL-FIBRE CANS • COMBINATION METAL AND PAPER CANS • SPIRALLY WOUND TUBES AND CORES FOR ALL PURPOSES

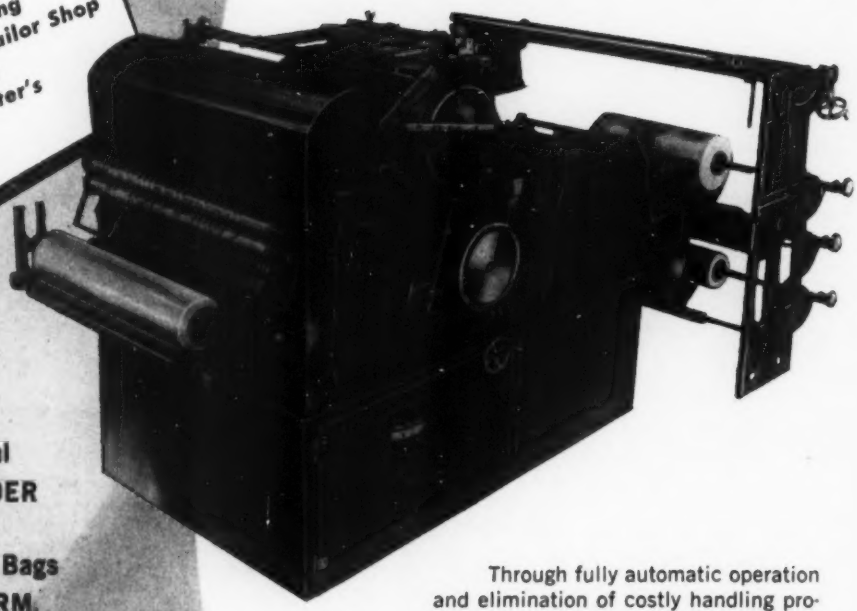
CLEVELAND CONTAINER CANADA, LTD.
Plants & Sales Offices: TORONTO AND PRESCOTT, ONT. Sales Office: MONTREAL



Completely Automatic GARMENT BAGS!

THE Roto Bag PO-5 "SPECIAL"

Takes Bag Making Out of the Tailor Shop — Returns It to the Converter's Plant!



Delivers Individual SLOPE-SHOULDER Garment Bags Or Perforated Bags In ROLL FORM.

- **Bags in roll form eliminate cumbersome handling of light, limp material both in-plant and by end-user.**
- **Handles light gauges down to and including .000625.**
- **Performs all the functions of a standard PO-5 for making conventional bags.**

Through fully automatic operation and elimination of costly handling procedures with improvised equipment the Roto Bag PO-5 "Special" lowers the cost barrier to a point where the enormous tonnage of the garment bag market is available to polyethylene!

Adding a rewind delivery to this fast, completely automatic performance enables the converter to efficiently produce garment bags from low-cost, light gauge poly and to sell these printed and unprinted bags in roll form. Moreover, the rolls lend themselves to especially adapted dispensers which greatly simplify handling for the end-user.

For specifications on this machine and details regarding roll dispensers, write:

ROTO BAG MACHINE CORP.

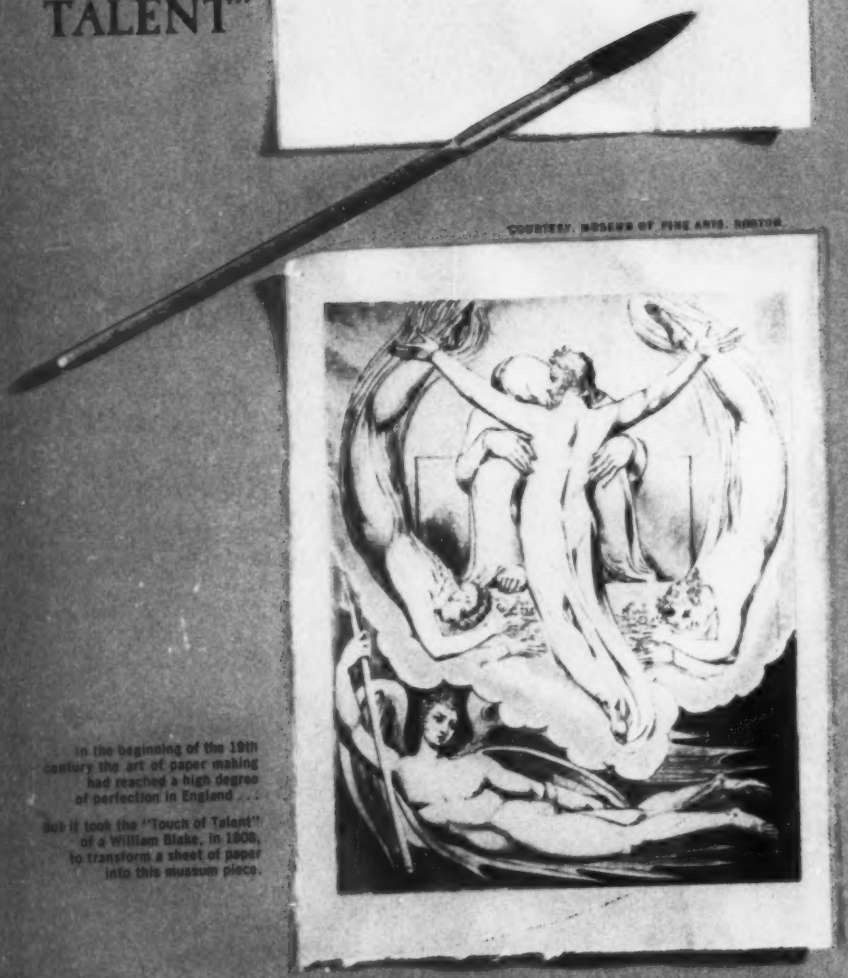
SALES AGENT

CONAPAC CORPORATION

120 East 13th Street, New York 3, N. Y.

RAP-IN-WAX
100 FT. ROLL
NEW!
Salad Server Set
Salad Server Set
SEE BOX BOTTOM TO ORDER
$1.25
MEMBER
19th Annual Forum
Oct. 28, 29, 30, 1957
Hotel Statler
New York City

Paper Needs the "TOUCH OF TALENT"



COURTESY, MUSEUM OF FINE ARTS, BOSTON

In the beginning of the 19th century the art of paper making had reached a high degree of perfection in England . . .

But it took the "Touch of Talent" of a William Blake, in 1808, to transform a sheet of paper into this museum piece.

It is talent above all other things, that creates a masterpiece from a piece of paper . . . whether it is designed for a museum, or a specific commercial purpose.

NASHUA Corporation

NASHUA PACKAGING TALENTS AVAILABLE TO YOU . . . Creative Design • Paper Chemistry • Package Engineering • Coordinated Packaging • Quality Production • Procurement Versatility . . . Nashua Corporation, Nashua, N. H.

MODERN PACKAGING

Vol. 31, No. 2 October 1957

Featured in this issue . . .

October accent on industrial packaging

More than a half-dozen expositions and seminars this month are exploring the complex problems of packaging for industrial products. Up for discussion are such topics as: the demand for better exterior design and display; improved methods of precision-product packaging; more mechanization of packaging lines to handle an increasing production; more convenience features for shipping containers to make handling easier; packing and shipping economies to reduce overhead; better lab test methods to determine package reactions to in-transit thumpings; better training for package engineers. In this article are reported the latest trends in industrial packaging, with this the ultimate goal: 100% arrival in perfect condition. To find out what's happening,

See "Industrial Packaging Today," p. 109

Now it's toothpaste in a squeeze bottle

Bristol-Myers this month goes national with a brand-new idea in dentifrice packaging—free-flowing toothpaste in a polyethylene squeeze bottle. Built-in convenience feature of new Ipana Plus package: It rests on its shoulder and dispenses through a spout that points downward, thus assuring instant response of the semi-paste to squeeze pressure. Another convenience feature: Package is always ready to use, with no need for hard squeezing or rolling up. This one looks likea trend setter.

Turn to "Squeeze-Bottle Toothpaste," p. 114

What supers don't like about your package

Survey by Folding Paper Box Assn. shows supermarkets aren't ecstatic about many of the packages they have to sell. It points out how better packaging can cut costs 4.5%, increase sales 7.4%—boosting total retailer take a whopping $3 billion. Retailers tell seven ways improved packaging could cut costs, seven ways it could increase sales. Their consensus of the ideal package: one that shows a picture of the product in use, plays up brand and product names, heightens visibility of product itself.

Be sure to read "Are Supermarkets Happy?," p. 120

Integral liner makes carton siftproof

Swedish-made machine, introduced in U. S. by Savannah Sugar Refining Corp., automatically forms, fills, seals two-part carton blank—and the moistureproof carton holds in every grain of even the finest sugar. Secret is a sealed-in non-collapsible liner of polyethylene-coated paper. Depending on type of liner used, says supplier, same machine can turn out packages that are airtight, odorproof and greaseproof. This development represents a major functional improvement in folding cartons.

Find out about it in "Siftproof Folding Carton," p. 129

Plastics score a victory over tradition

Nothing would seem more hidebound than the ancient practice of closing a champagne bottle with a natural cork, bound and fastened with wire. Yet venturesome California vintners have successfully defied tradition to adopt a better champagne stopper. Molded

of modern, white polyethylene, it is easier to insert and easier to remove (with the same satisfying "pop"). But unlike cork, it can be replaced to protect the unused portion. For the story of Almaden Vineyards' innovation,

Turn to "Plastic Cork for Champagne," p. 136

For fibre cans, a new day may be dawning

Flexible and versatile, this basically paperboard container today reaches only about 10% of its potential market. But its greatest growth period is at hand—the result of new production developments that offer lower manufacturing costs, more protection, better product visibility and more convenient package opening. The fibre can's low cost and flexibility make it a natural for everything from soup (edible) to nuts (hardware). For the full, exciting story of an industry on the move,

Read this month's Supplier Industry Survey, "Fibre Cans," p. 124

How to take waste motion and money out of hand packaging

Is wrapping or loading by hand still the most practical way to package your products? If so, the same engineering ingenuity that makes packaging machines so efficient might help make your hand operation faster, easier and more effective. The Garlock Packing Co. found this so in designing a new kind of package for one of its more than 2,000 industrial products. With the assistance of a smaller roller jig and a motor-driven spinning head, hand wrappers now turn out multiple-unit corrugated tube packages that provide better product protection, facilitate handling and cost 70% less than hand-loaded single-unit containers. To get all the details,

See "Hand Packaging Can Be Engineered," p. 144

Packaging revolution in Detroit?

Holley Carburetor Co.'s tamperproof, "total-visibility" thermoformed plastic package for automotive parts seems a sure bet to set a trend in Detroit. Basic package consists of flanged, rectangular, formed-acetate cup closed with a flat, printed acetate sheet that is electronically heat sealed. Among its proved benefits: savings in shipping charges, savings in package cost, savings in storage space at Holley's plant and on distributor shelves. For the complete story of how and why thermoformed plastic is supplanting other package forms in this company's automotive replacement parts business,

Don't miss "Thermoforms for Auto Parts," p. 148

Vacuum forming and vacuum packaging combined

Mechanized film packaging of sliced luncheon meats by Albert F. Goetze, Inc., Baltimore, incorporates three notable advances in the rapidly changing field of flexible vacuum packaging: (1) It uses one of the first continuous automatic machines to work with web-fed film rather than prefabricated pouches; (2) for a neater package, it combines a type of vacuum forming with vacuum packaging; (3) it employs an advanced product of film-coating technology—a basic polymer-coated polyester film to which is added a 2-mil coating of polyethylene. In the machine, which has a top speed of 80 packages per minute, the top web of film is softened by heat and formed by drawing into vacuum cavities in the shape of the meat stacks which it covers. Result: neater, more attractive and better-protecting food packages.

Read "Continuous Flexible Vacuum Packaging," p. 154

New opportunities in new-type polyethylene

Development of new linear polyethylene resins produced by activated catalyst systems at low pressures has aroused interest and speculation as to this polymer's potential in bottles and film for packaging. Here is a detailed study on the permeability and chemical-resistance features of one of the first of these resins to reach commercial production. A technical report by R. J. Martinovich and Paul J. Boeke, Phillips Petroleum Co.

Turn to "Performance of a New Polyethylene," p. 167

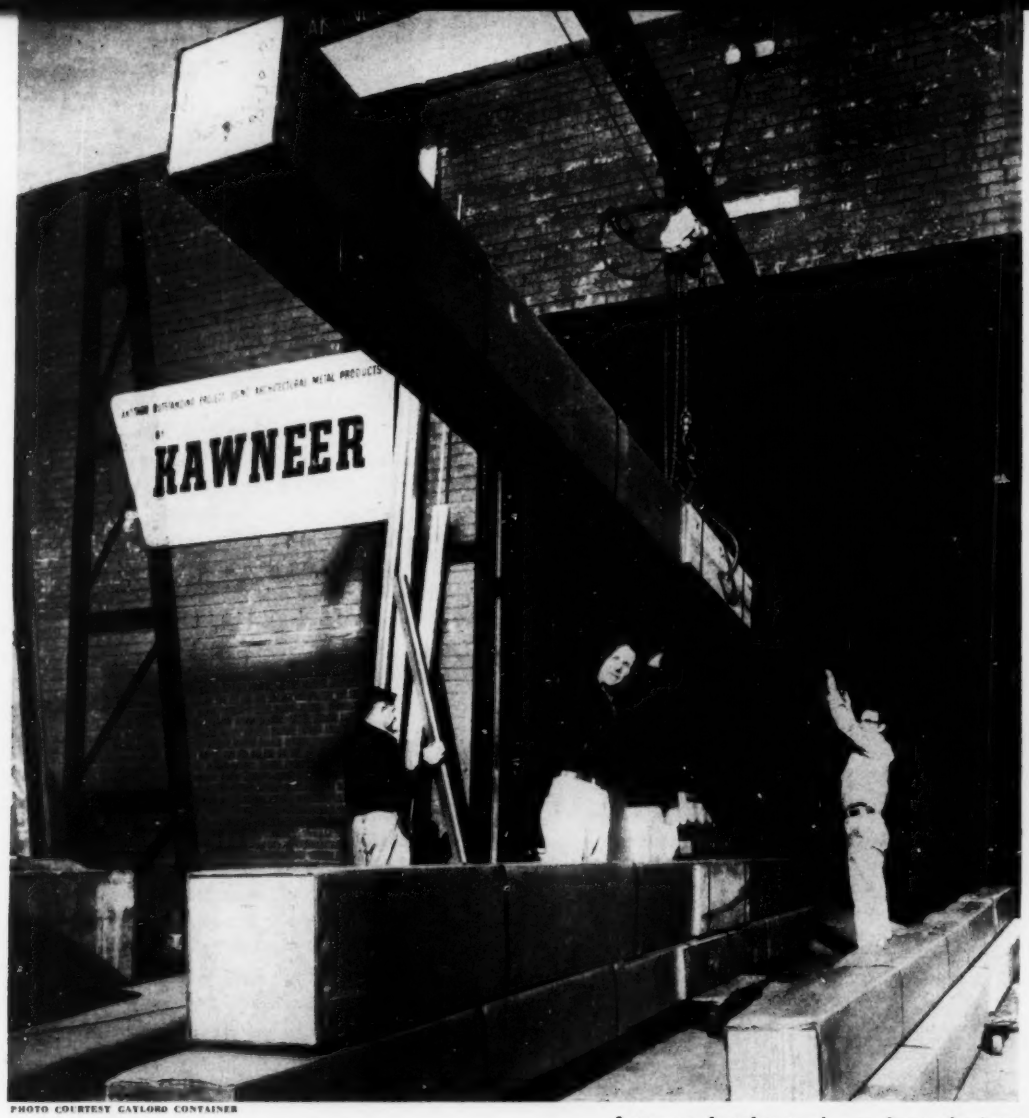


PHOTO COURTESY GAYLORD CONTAINER

Long extrusions of store-front aluminum shipped in corrugated by Kawneer Co. show huge size of products now efficiently protected in lighter-weight materials. In this case, wood is required only for ends of the 21-ft.-long pieces.

INDUSTRIAL PACKAGING TODAY

The trends are toward better exterior design and decoration, scientific protection of contents, lighter materials and mechanization of the packaging procedure to keep costs in line

More than ever this year, in the realm of packaging, October belongs to the industrial packaging engineers, entrusted today with the continually more complex job of delivering safely to destination everything from macaroni to guided missiles.

Emphasis on shipping packaging and packaging for industrial products centers not only on the 12th annual National Protective Packaging and Materials Handling Exposition in Atlantic City this month, but on at least a half dozen other scheduled events devoted to this increasingly important area of packaging.

Simultaneously, in New York, the Packaging Institute Forum includes a shipping container seminar

Decorative possibilities are illustrated by colorful corrugated containers for Evans wheel goods—velocipedes, Motor-Trikes and earth-movers—designed like ABC blocks as shown and with traffic sign cut-out, etc., that aid dealer in building displays and have re-use play value for the child. In the photo, Clarence Jahn, Livonia, Mich., dealer with John Huggins, Evans sales manager.

PHOTO COURTESY WIREBOUND BOX MFRS. ASSN.

Wholly prefabricated wirebound wood box cuts by 59% over-all cost of packing John Deere Spreader Works hand sheller machine for export, in comparison with former boxes which were made to order in the company's own carpenter shop.

plus sessions on bulk packaging and corrugated materials. In Philadelphia, the Technical Assn. of the Pulp & Paper Industry holds its seventh annual Corrugated Containers Conference in Benjamin Franklin Hall, Oct. 23-24. The Fibre Box Assn. meets in Washington, Oct. 17-18, and the Third Joint Military-Industry Packaging and Materials Handling Symposium is being held Oct. 1-3 at Fort Lee, Va., while the Quartermaster Assn. meets at the same time in San Francisco.

Exhibits and programs at these events quickly point up the subjects of widest interest:

1. The almost universal demand for artful surface design and display treatments, often as colorful as consumer packages, to give sales appeal and strong corporate identity to shipping containers for everything from breakfast foods to oil tank cars.

2. Continued search for improved methods of precision packaging to protect for shipment the products of the nation's swift technological development in electronics, nuclear physics, radiology, supersonics, aviation, photography and other fields of science.

3. More mechanization of industrial and shipping packaging lines to handle the rapidly increasing production of consumer and durable goods.

4. More package convenience features for shipping containers to make for easier loading and unloading, warehousing and selling.

5. Economics in packaging and shipping that reduce costly overhead of labor, time and materials.

6. Better laboratory test methods for determining the exact reactions of a package to shock, vibration, abrasion, crushing, piercing, moisture, heat, cold, infestation and all the other destructive forces which goods may encounter between factory and consumer.

7. Better training for much-needed package engineering personnel.

Materials

The swing to corrugated and solid fibre containers continues as shippers in almost every field continue the search for lighter weight, easier handling and easier disposability.

Corrugated is making big inroads on wood in the fruit and produce field. It is replacing crates in applications where the shipper wants all sides of the merchandise covered, either to prevent marring and chipping or to provide broad surfaces for printed promotional messages.

Refrigerators, ranges and washing machines today are commonplace in colorfully printed corrugated containers. Even huge aluminum extrusions for store fronts and window frames up to 21-ft. long are now moving in corrugated. Kawneer Co., Berkeley, Calif., producers of these aluminum ex-

trusions, now uses wood only for the ends of the containers. The new corrugated assembly consists of a scored, 500-lb.-test, double-wall pad fitted into a jig to form the sides. The wood ends are tacked in place, the top folded over and steel strapping applied at several points along the length of the box.

There is a trend, too, to lightweight wirebound crates replacing nailed wood boxes for durable goods such as electrical and communications equipment. Inside the crates, the product is often protected by polyethylene film.

There are even instances of shipments today without outer box or crate. Rentar Trucking, Inc., Maspeth, N. Y., has designed special trailer trucks to carry refrigerators and air-conditioners simply fastened to a wooden pallet and covered with a polyethylene bag, ready for loading into adjustable tracks on the trailer and locked in place—two tiers high for refrigerators; three to four, for air conditioners The trailer, in effect, becomes a rigid pack for an entire shipment.

By imparting special protective properties, coatings and other treatments are extending the use of corrugated and paper packaging materials into new shipping-container fields. S. A. Heisey & Sons, Greencastle, Pa., uses a specially treated apple box reported to withstand nine months cold storage at 31 deg. F. and 90% relative humidity when filled and stacked as many as 10 cartons high. Molded paper trays are used to position and cushion the fruit. These apple boxes have been used for shipment to numerous parts of South America with no damage claims whatsoever, the company reports.

Hundreds of welts in top and bottom flaps of these cartons for Fisher Scientific Co. chemicals make them non-skid for safety in the lab stockroom.

Silicone-treated paper is being used more widely as protection for gummy or sticky products. Several container firms are working to develop this special type of container for the asphalt industry. Silicone-treated paper is also being recommended for liners in multiwall bags where stickiness is a problem.

On the other hand, non-skid exterior coatings of one kind or another are being used to permit safer stacking of multiwall bags. Socony now uses an invisible spray coating on corrugated cases to produce an effective unitized pallet load without gluing or strapping. (See "Non-Skid for Corrugated," Dec., 1956, p. 127.)

Epoxy-resin coatings have greatly extended the

Distributor convenience of Stouffer frozen-food shippers is demonstrated by Howard Finney, traffic manager, showing John A. MacLellan, president of Allied Wholesale Foods Co., Cleveland, how series of serations permit carton to be divided into half packs for half-dozen sales. Another series of serations permits opening of the top flaps for easy marking by the retailer of full case (left).

PHOTO COURTESY INLAND CONTAINER CORP.

usefulness of metal drums for products where corrosion is a factor, while polyethylene plugs and fitments help to eliminate abrasion of interior coatings.

Eye appeal

Most impressive is the progress in colorful printing on corrugated and other types of shipping containers to give the shipping package the same kind of eye appeal as a consumer shelf package. Whether they are used to carry cartons of detergents or ton rolls of steel wire, shipping containers today are regarded as billboards to advertise the company and its product wherever they go. It is no longer uncommon for leading package designers to be commissioned to design the industrial and shipping package. (See "Scovill's Stripes," Oct., 1956, p. 108; "Identity for Steel," Oct., 1956, p. 118.)

And the trend calls for corrugated containers with whiter outer liners, patterned inner liners, multicolor printing with halftone gradations, the use of transparent inks—even outer surface sheets preprinted by fine-screen lithography laminated to corrugated. (See "Corrugated Packs That Sell," Nov., 1956, p. 155; "Big 'M' For Motorola," Jan., 1957, p. 94; "Corrugated Goes Beautiful," Mar., 1957, p. 147; and "Fine Printing On Corrugated," July, 1957, p. 116.)

Precision packaging

New concepts and principles in protective packaging, undreamed of a decade ago, are demanded to meet the exacting requirements of an age of science. Delicate precision equipment from tiny glass parts to long-range telescopes needs packaging that sometimes has to be as painstakingly engineered as the products themselves.

An example would be the new molded boxes of polyester resins reinforced with fibre glass used by General Electric to ship airborne electronic units to the Air Force. The container is reportedly one-third lighter than a comparable steel container, is rust and mildew resistant, and was adopted not only for its unusual strength, but because it requires no pressure relief valves for high-altitude air transport due to its ability to expand and contract with atmospheric pressure. The most extreme drop and tumbling tests were given these polyester packages before they were accepted for general use.

Today's packaging engineer has avid interest in such developments as volatile corrosion inhibitors which give off a vapor that prevents oxidation of ferrous metal surfaces in any closed atmosphere, even though moisture may be present.

He is studying new suspension packs, cradle packs and honeycomb packs which have been largely responsible for the wider use of lightweight container materials generally, since it is known that efficiency does not depend entirely on a container's structural strength, but on proper distribution of cushioning.

Many of these precision ideas carry over into totally unrelated fields. In France, a roll of velvet is completely protected from crushing by suspension in its tubular container when the cork which holds

Die-cut hand holds facilitate handling corrugated boxes for National Mfg. Co.'s butt-type hinges weighing up to 73 lbs. packed for shipment. Four thicknesses protect all sides of product. Individual boxes are packed in inside section which fits in telescoping covers, one of which is equipped with tote holes. Two strips of reinforced tape seal boxes.

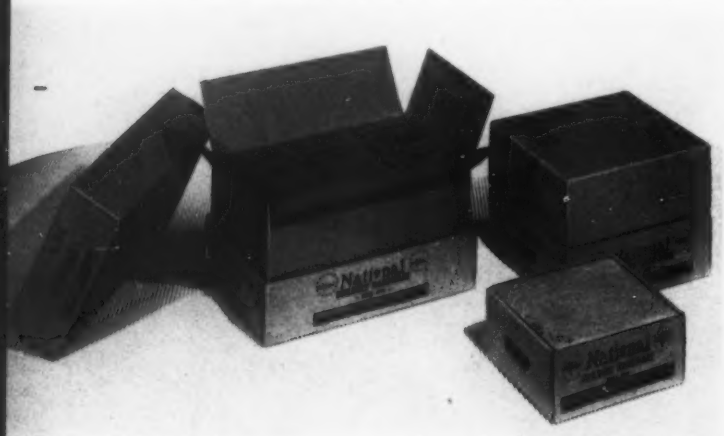


PHOTO COURTESY HINDE & DAUCH

Printed polyethylene film provides moisture protection, strength and transparency as a wrap for reels of wire and cables by Belden Mfg. Co. Product visibility aids the customer in selecting types and colors desired.

PHOTO COURTESY TUBING CO.

the velvet is fitted over wooden cones at each end of the container. (See "French Oscars," March, 1957, p. 216.)

Mechanization

Industrial packagers are eager for more mechanized methods to speed up production in the shipping department. According to R. A. O'Reilly, Jr., packaging engineer at General Motors, they feel industrial packaging techniques have lagged behind consumer packaging because of relatively low volume and frequent change-over. These factors, it is believed, have also kept suppliers from developing equipment to meet the requirements.

Nevertheless, there are noteworthy examples of progress, such as the push-button conveyor systems for programming orders as seen in the new Lambert-Hudnut plant in Lititz, Pa., (see "Planning the Packaging Plant," May, 1957, p. 109) and GE's assembly line procedure at Pittsfield, Mass., for putting electrical transformers in polyethylene bags and crating them for delivery by overhead monorail baskets to warehouse and shipping areas. GE ships up to 15 carloads of these huge units in one working day.

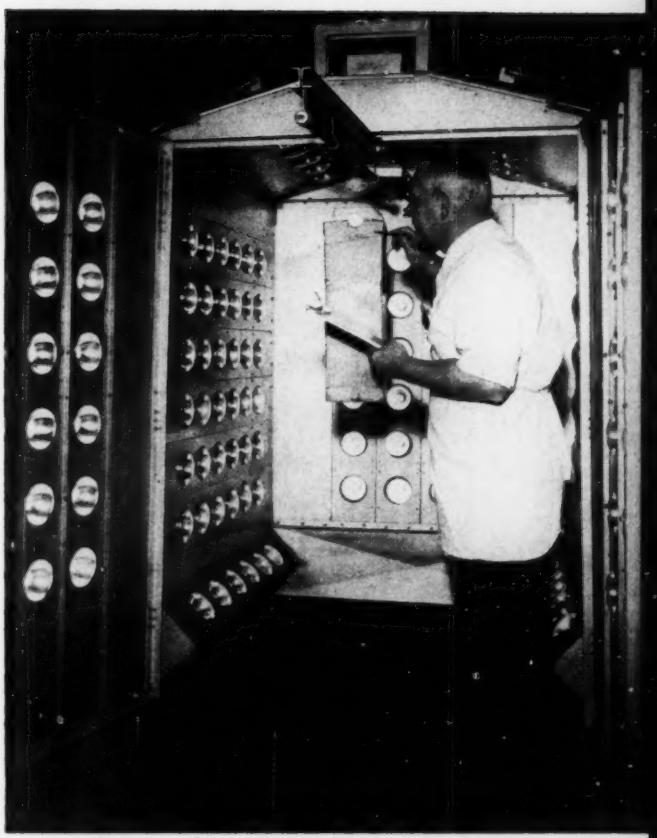
Convenience

In shipping packaging, constructions and devices that mean easier handling, opening and closing mean savings of time, labor and money. This is the reason for today's almost universal acceptance of tear-tape openings as well as for the increasing use of cartons with series of serrations, such as Stouffer's Frozen Cooked Food Div. has adopted to divide cases into half packs for sales of half-dozen units. Another series of serrations on the same cartons opens top flaps to expose packages for easy marking.

Fisher Scientific Co. has devised ingenious non-skid cartons for the safety of chemicals in the laboratory stock room. Hundreds of tiny welts made in the paperboard tops and bottoms of its new cartons keep the stacks of packages nicely in place on the shelf with no dangerous slipping.

Die-cut hand holds on new shipping boxes for National Mfg. Co.'s individual boxes of butt-type hinges greatly facilitate handling of shipping units weighing up to 73 lbs. Each shipping container consists of an inner section with telescoping covers, one of which contains the hand holes. When taped together each unit provides four thicknesses of corrugated-board protection on all sides for transit and and stacking strength. And the company says these containers cost 25% less than the wooden boxes they replaced.

Penn Extrusion Corp., Erie, Pa., has adopted an octagonal drum-shaped [*Continued on page 239*]



Infra-red ovens to simulate desert conditions are part of the advanced laboratory equipment for testing military packages at the U. S. Army Signal Depot at Tobyhanna, Pa. Technician Julius Penn is shown here checking the temperature.

Reinforced polyester and glass-fibre container used by General Electric to ship airborne electronic units for the military is one-third lighter than a comparable steel container, is rust and mildew resistant, has unusual strength and requires no pressure relief valves for high-altitude air transport, due to its ability to expand and contract with atmospheric pressure. Molded lugs on top secure stacking. *Container by Pressureform Container Corp., using Celanese polyester resin.*

Convenience is the consumer appeal. Handy container dispenses just the right amount on brush with no waste and no muss. Bottle won't lose its shape from first to last squeeze, needs no rolling up.

Side-based bottle is the key to efficient dispensing. Shape and position force contents into neck area so there is never any lag in dispensing. Wedgwood blue bottle with crimson and white printing creates pleasing appearance for bathroom shelf.

Squeeze-bottle toothpaste

Bristol-Myers' radical new concept for instantaneous application of special 'flowing paste' dentifrice formula could touch off the toothpaste-packaging revolution of the century

The first fundamentally new idea in dentifrice packaging since toothpaste was invented is a polyethylene squeeze bottle that sits on its shoulder and dispenses its contents through a spout that points downward. Developed by Bristol-Myers for its new semi-paste Ipana Plus dentifrice, the package has all the earmarks of a trend setter.

Convenience, function and economy are the solid reasons behind the revolutionary package, but novelty appeal is a strong element and, with a product such as this, which every member of the family

uses at least twice a day, promises to make it an immediate conversation piece.

The function is the joint result of package design and product formulation. The creamy white "flowing paste" has a consistency about half way between that of a true paste and a liquid—thin enough to dispense easily through a small opening under squeeze pressure, yet thick enough to stand on the toothbrush. The design idea of putting the flat base on which the bottle must rest on the shoulder rather than the bottom assures that the spout is always filled with the product and ready for instant dispensing.

Convenience comes from the fact that the package is always ready for use, without the necessity of hard squeezing and rolling up. A single gentle squeeze puts just the right amount of flowing paste on the brush, without muss or waste. The unbreakable bottle fits any bathroom shelf, without danger of falling or rolling off, and is so attractive in design and color that it may very well be left out in the open, as an ornamental element—doing a continuous job of promoting the brand name.

As for economy, Bristol-Myers is heavily promoting the claim that one 7-oz. bottle, retailing for $1.19, will outlast three ordinary 53-cent tubes of toothpaste, for a net saving of up to 40 cents.

The Ipana Plus package appears likely to be as revolutionary in its effect on the toothpaste field as was another Bristol-Myers development—Ban "roll-on" deodorant—in the deodorant market less than three years ago.* And since it proves the feasibility of dispensing a paste from a bottle with the help of squeeze pressure, it clearly suggests the same sort of convenience packaging for dozens of other semi-viscous products such as shoe creams, polishing waxes and shaving creams.

Ipana Plus is dispensed through a small opening in a cone-shaped polyethylene plug fitment in the neck of the bottle when the container is squeezed. It will not flow out except under pressure. The bottle is closed with a white urea screw cap.

Efficient functioning, according to Bristol-Myers, is due to the eccentric shape of the container, the specially designed dispensing fitment and the specially developed formula (identified as a free-flowing dentifrice rather than a paste, although still comparatively viscous in consistency). All three of these features are in the process of being patented, in combination.

Months of engineering research were required to perfect (1) the eccentric shape of the bottle and (2) a product formula with the proper flow in conjunction with (3) a dispensing plug of proper shape and orifice to release the product gently in controlled quantities.

Simple as it seems, the idea of shaping the bottle so that it would rest always on its shoulder, with the spout downward, was fundamental to success. Not only does gravity thus keep the viscous cream always in position for dispensing, but it automatically puts air space on the "side" of the bottle opposite the base—where it must be for efficient squeeze dispensing.

With this arrangement, there is never any waiting for application as there would be if a conventionally shaped squeeze bottle had to be inverted until viscous contents flowed to the dispensing orifice—a problem not encountered with the use of squeeze bottles for quick-flowing liquids and one that, up to the present, has retarded their adoption for viscous materials.

Another problem heretofore preventing the use of either squeeze bottles or squeeze tubes for such products as toothpastes and shaving creams has been the escape of aromatic ingredients through the polyethylene. It is significant to note that this has been overcome in the Ipana Plus bottle through the application by the molder of one of the new interior coatings—probably a thin, spray coating of a different plastic resin which is highly resistant to vapor transmission.

The container has been [*Continued on page 228*]

* See "Roll-On Deodorant," Modern Packaging, Jan., 1955, p. 80.

Counter boot is die cut to emphasize eccentric shape. Header is punched for hang-up display if desired. Ipana Plus is being offered as a large economy package (7 oz. net weight sold for $1.19) to "outlast three 53-cent tubes."

Supplies and services: *Interior-coated squeeze bottles and polyethylene fitments by Plax Corp., Box 1019, Hartford, Conn. Urea plastic cap by Owens-Illinois Glass Co., Toledo 1, Ohio. Paperboard boot and display cartons by National Folding Box Division, Federal Paper Board Co., Inc., 405 Lexington Ave., New York, 17. Design by Egmont Arens, 480 Lexington Ave., New York 17.*

FULLER'S

Bellwether of the program was the toiletries group. Gay new packages improved catalog illustrations so much, the designer was asked to redesign the company's entire line.

To the Fuller Brush Co., packaging display means something quite different from today's usual retail-shelf conception. To this firm, which does all its business by direct door-to-door selling, display must mean the photogenic appearance of packages the housewife sees and orders by picture in the company's catalog, matched by top-quality appeal of the actual packages when delivered to her home.

These subtle aspects of Fuller merchandising have been a very strong influence behind the company's current over-all package redesign program aimed (1) to step up color and eye appeal and (2) to give sharper product identity to the 380 household and personal items the company now offers.

The project represents the first major design change since 1947, when the company adopted its now familiar script logotype and feather-striped family design theme that won a top award in the Folding Paper Box Assn. competition of that year.

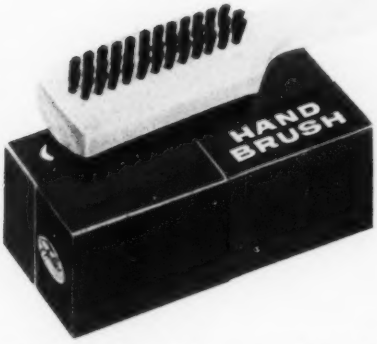
Fuller products are never sold in the retail store. They are sold by company representatives who leave a printed catalog with the housewife for several days to make her selections, after which the Fuller Brush man returns for her order and to pick up the catalog.

Fuller's new packages, using strong color combinations in two new basic patterns are replacing the old packages to provide the eye-stimulating color contrasts and quick product recognition which the company felt was lacking in the more restrained, former uniform family design.

Printed in full color, the Fuller catalog features, along with illustrations of the products and packages, a folksy color photographic story of family life to lead the housewife into the book. Some 20 million catalogs are printed each year, reportedly getting into the same or different homes about five times per copy.

PHOTOGENICS

Famous door-to-door merchandiser sells almost solely from the catalog page with packages designed to look their best in pictures



Eye-catching color of cartons in new harlequin design help to sharpen reproduction of ivory-handled brush on catalog page and balance large catalog photographs on the opposite pages.

Keyed to types of tooth brushes, color combinations in trylon design help distributors and sales representative in selection of items to fill orders.

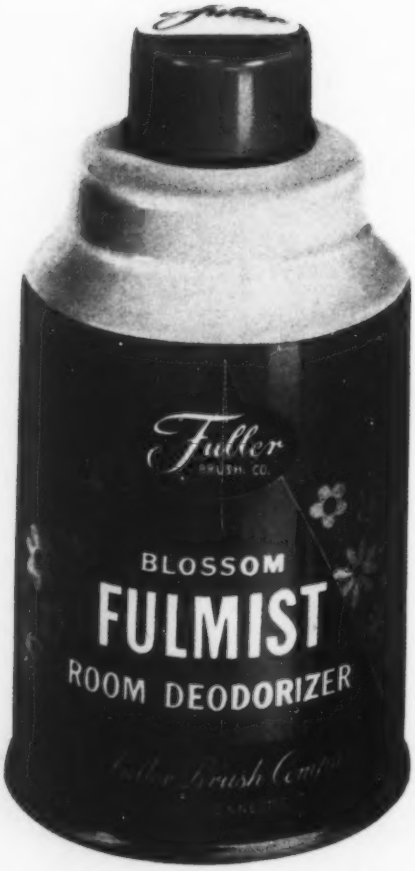
In contrast to the full-color, human-interest illustrations in these catalogs, it became apparent to Fuller about a year ago that items such as hair brushes and floor mops, though reproduced in natural color, did not have as much eye appeal as the theme illustrations. Neither did floor waxes, cleansing powders and insecticides in their gray-and-white striped packages.

And packages for one cosmetic line, called "Sparkling Gold," it was felt, did not show up strongly enough when the white packages were reproduced on the white page.

The company called in a leading independent package designer to create packages that would give bright color to a new line of toiletries. Powder boxes designed in deep pink and black with lettering printed and embossed in gold for the new "Leading Lady" line provided the strong color impact needed in the catalog. For men, a new "Regatta" line was

New design principle is based on quick identification by color, used in two basic design patterns—harlequin (cartons at left) and trylon.

Color identification makes it easier to differentiate products in the various product groups and within the same group.



Cool shades in trylon pattern distinguish aerosol product for household use. Plant and insecticide aerosol spray cans that must be used with care are printed predominantly in red.

created featuring black and gold on white with a bright-colored motif of nautical signal flags.

So effective were the results of this new package design experiment in the catalog pages that Fuller asked for the same designer to redecorate the complete line of Fuller packages, covering some 330 personal and household items, including brushes, cosmetics and chemicals. About 180 have been restyled so far.

An important aspect of the project was that of portraying items, such as white brushes, against reproductions of the colorful cartons in which the products are now supplied. This provides the eye attraction deemed necessary to draw the reader's attention from the full-color theme photographs reproduced on one page to the product illustrations displayed on the opposing page of the catalog.

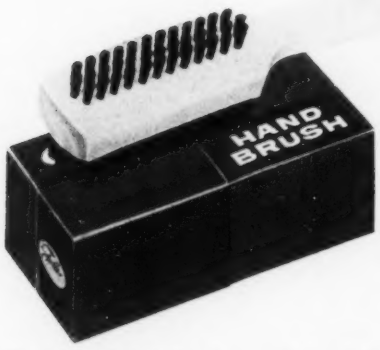
Another advantage both to dealer and user is achieved by using identifying color combinations and the two basic new design patterns to denote different types of products.

The harlequin pattern is used on most folding cartons. Each is printed in two colors, with four rectangular checkerboard panels on top and bottom and two color panels on each side and end. The company's logotype is reproduced in script type in a white oval in one of the color blocks and the product name in strong reverse-plate block type across the diagonally opposing panel.

Color combinations were selected for their product appropriateness. Cartons for men's brushes are in masculine red and brown; women's combs and brushes, in feminine pink and blue; family brushes, in red and golden tan, and household brushes, in green and golden tan. Reproduced in conjunction with the product illustration, these colorful packages help balance color on opposing pages with the theme

PHOTOGENICS

Famous door-to-door merchandiser sells almost solely from the catalog page with packages designed to look their best in pictures



Eye-catching color of cartons in new harlequin design help to sharpen reproduction of ivory-handled brush on catalog page and balance large catalog photographs on the opposite pages.

Keyed to types of tooth brushes, color combinations in trylon design help distributors and sales representative in selection of items to fill orders.

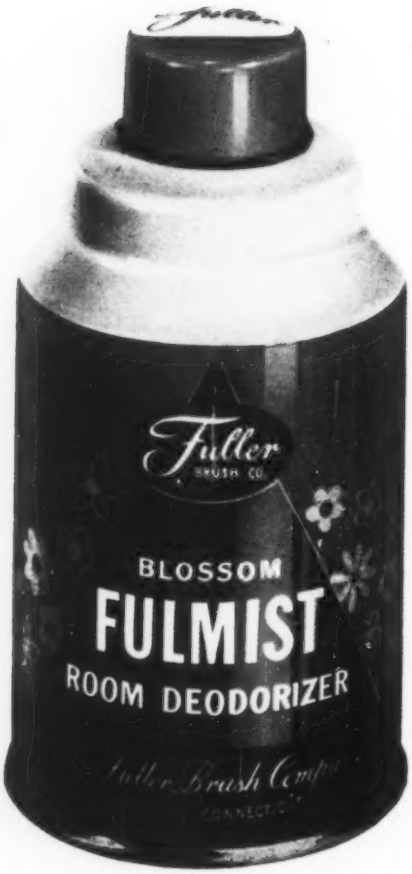
In contrast to the full-color, human-interest illustrations in these catalogs, it became apparent to Fuller about a year ago that items such as hair brushes and floor mops, though reproduced in natural color, did not have as much eye appeal as the theme illustrations. Neither did floor waxes, cleansing powders and insecticides in their gray-and-white striped packages.

And packages for one cosmetic line, called "Sparkling Gold," it was felt, did not show up strongly enough when the white packages were reproduced on the white page.

The company called in a leading independent package designer to create packages that would give bright color to a new line of toiletries. Powder boxes designed in deep pink and black with lettering printed and embossed in gold for the new "Leading Lady" line provided the strong color impact needed in the catalog. For men, a new "Regatta" line was

New design principle is based on quick identification by color, used in two basic design patterns—harlequin (cartons at left) and trylon.

Color identification makes it easier to differentiate products in the various product groups and within the same group.



Cool shades in trylon pattern distinguish aerosol product for household use. Plant and insecticide aerosol spray cans that must be used with care are printed predominantly in red.

created featuring black and gold on white with a bright-colored motif of nautical signal flags.

So effective were the results of this new package design experiment in the catalog pages that Fuller asked for the same designer to redecorate the complete line of Fuller packages, covering some 330 personal and household items, including brushes, cosmetics and chemicals. About 180 have been restyled so far.

An important aspect of the project was that of portraying items, such as white brushes, against reproductions of the colorful cartons in which the products are now supplied. This provides the eye attraction deemed necessary to draw the reader's attention from the full-color theme photographs reproduced on one page to the product illustrations displayed on the opposing page of the catalog.

Another advantage both to dealer and user is achieved by using identifying color combinations and the two basic new design patterns to denote different types of products.

The harlequin pattern is used on most folding cartons. Each is printed in two colors, with four rectangular checkerboard panels on top and bottom and two color panels on each side and end. The company's logotype is reproduced in script type in a white oval in one of the color blocks and the product name in strong reverse-plate block type across the diagonally opposing panel.

Color combinations were selected for their product appropriateness. Cartons for men's brushes are in masculine red and brown; women's combs and brushes, in feminine pink and blue; family brushes, in red and golden tan, and household brushes, in green and golden tan. Reproduced in conjunction with the product illustration, these colorful packages help balance color on opposing pages with the theme

story in the catalog. They also bring up the color of an ivory-handled brush, against a white catalog page.

The second basic pattern, called trylon, is used in a wide variety of color combinations for most of the rest of the company's packages. These include such diverse items as dental-cream tubes, toothbrush cartons, metal cans for liquid and paste waxes and polishes, glass jars and bottles for glass cleaner and room deodorants, and metal aerosol cans for insecticides, etc.

The trylon pattern, printed usually in three colors, features a container-high triangle with company logotype in reverse on a colored oval at the peak and product identification in large block letters toward the base of the triangle.

Color combinations serve other useful functions, varied on cartons for different kinds of tooth brushes or on cans for different kinds of polishes and waxes. Aerosol containers for all products that must be used with care, such as plant or pest sprays, have red as a dominant part of the design and side decoration, and on the caps. A room deodorizer is packaged in an aerosol can with the trylon pattern, cool green and blue predominating.

In addition to providing color impact for the catalog, it was the designer's aim to make these packages pleasing for the consumer to use, easy to recognize and read, easy to identify in the warehouse and easy to reproduce.

Most of the cartons are printed by lithography, some by letterpress. Cans are all lithographed and labels are both letterpress and offset printed. To achieve uniformity, color samples are sent to all suppliers.

The new packages, now in distribution, reportedly are being received with enthusiasm and the company believes they will turn out to be a valuable spark to sales morale.

Supplies and services: *Design by Eric de Kolb, 20 E. 53 St., New York. Folding cartons by National Folding Box Division, Federal Paper Board Co., Inc., 405 Lexington Ave., New York 17. Metal containers by American Can Co., 100 Park Ave., New York 17, and Continental Can Co., 100 E. 42 St., New York 17. Aerosol containers by Crown Cork & Seal Co., Inc., Can Div., 9300 Ashton Rd., Philadelphia 36, Pa. Caps by Sterling Seal Co., P. O. Box 589, Erie, Pa.; Castle Plastics, Inc., Portsmouth, Va., and West Penn Mfg. & Supply Co., Brackenridge, Pa. Set-up boxes by F. N. Burt Co., Inc., 514 Seneca St., Buffalo 4, N. Y. Labels by C. H. Forsman Co., 318 W. 39 St., New York 18, and Wheeler-Van Label Co., 13-21 McConnell St., S. W., Grand Rapids 1, Mich. Glass bottles by T. C. Wheaton Co., Millville, N. J. Collapsible metal tubes by Sun Tube Corp., 181 Long Ave., Hillside 5, N. J.*

Previous family design lacked color to liven up catalogs and had too much sameness for distinguishing various products in the line.

Stand-out design of new packages for some of Fuller's 380 household and personal products are examined by A. Howard Fuller, president.

Are supermarkets

retailers say:
BETTER PACKAGING CAN REDUCE STORE COSTS
in at least 7 ways:
✓ CUTTING BREAKAGE SHRINKAGE, SPOILAGE
✓ PREVENTING DISCOLORATION
✓ STOPPING PILFERAGE
✓ PROVIDING BETTER PROTECTION
✓ SPEEDING PRICE MARKING
✓ IMPROVING HANDLING AND DISPLAY
✓ SAVING SPACE

Improved packaging could cut operating costs and increase sales of the nation's supermarkets to the tune of more than $3 billion a year. And $1 billion of this could be passed on in the form of reduced costs to American families.

This is the impressive conclusion reached in a study of the function of packaging in modern food and grocery retailing as reflected by the attitudes and operating practices of supermarket management.

This research project by the Folding Paper Box Assn. of America, conducted by Don White, Inc., is the second in a series of a broad program by this association, covering the aspects of packaging in today's merchandising.

Better packaging could cut store handling costs by as much as 4.5% of total sales and could increase total sales by 7.4%, according to retailers interviewed. Projected on estimated total annual sales of $26.2 billion for all supermarkets, this means in excess of $1.1 billion and $1.9 billion, respectively, (or more than $3 billion) that could be added to supermarket income through improved packaging.

This national survey is based on the opinions of 203 retail food and grocery organizations, operating 9,709 stores with total sales volume of more than $6.5 billion. About 68% of the stores (6,524) covered in the study are supermarkets, representing more than one-fourth of the country's supers.

Significantly, in 40% of the cases responsibility for making the packaging decision rests with owners, presidents and vice presidents. The importance they attach to packaging is even more strikingly revealed by the fact that 65% of the retailers interviewed delegate specific packaging responsibilities to an individual or a group within the organization. They apparently also consider packaging so vital to retail food business today that the store executives

happy?

Not by a long shot! Better packaging, they say, could reduce store handling costs by 4.5%, increase sales 7.4% and altogether boost retailers' take by $3 billion

participating in the study granted an average of 1 hr. and 17 min. per interview, with some of the interviews lasting more than four hours. Many retailers even requested information from preliminary results and inquired about special regional tabulations and findings.

The study covered all types and sizes of retail food and grocery organizations operating in 28 states—major chains, regional chains and typical independent supermarkets. Groups of chains of three sizes also were represented in the study—small (five to nine stores), medium (10 to 99 stores) and large (100 stores or more). Independents were designated as those with less than five stores.

Retailers feel that better packaging can reduce store costs in seven major ways:

1. By cutting breakage, shrinkage and spoilage.
2. By preventing discoloration.
3. By stopping pilferage.
4. By providing better protection.
5. By speeding price marking.
6. By improving handling and display.
7. By saving space.

They say better packaging could increase sales in at least seven ways:

1. By providing larger sizes.
2. By offering greater variety.
3. By using more multipacks.
4. By picturing the product in use.
5. By strengthening brand name.
6. By illustrating the product.
7. By adopting better use of color.

Each of these elements, they believe, contributes to getting attention, creating appetite or use appeal, and suggesting new or extra uses to speed up purchases. Unquestionably, they regard packaged goods as the heart of the supermarket operation in providing mass display, impulse buying and point-of-sale information.

Retailers designate eight supermarket departments in which packaging could make greater contributions: meats, produce, grocery, baked goods, frozen

TABLE 1

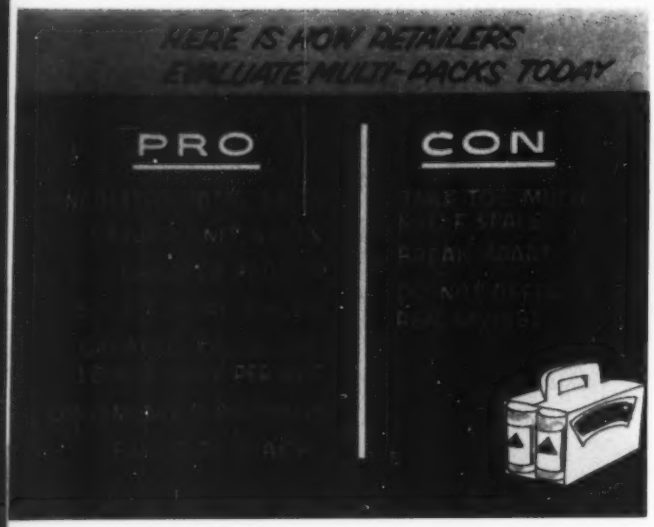
RETAILERS SAY—
BETTER PACKAGING CAN BRING THESE $AVING$ IN OPERATION—

	ESTIMATED SAVINGS AS % OF TOTAL STORE SALES
MEATS	2.81
PRODUCE	.64
GROCERY	.42
BAKED GOODS	.40
FROZEN FOODS	.14
DAIRY PRODUCTS	.09
DRUG, HEALTH BEAUTY AIDS	.03
HOUSEWARES, ETC.	.02
TOTAL	4.55%

TABLE 2

BETTER PACKAGING CAN BRING SALES THESE SALES INCREASES—

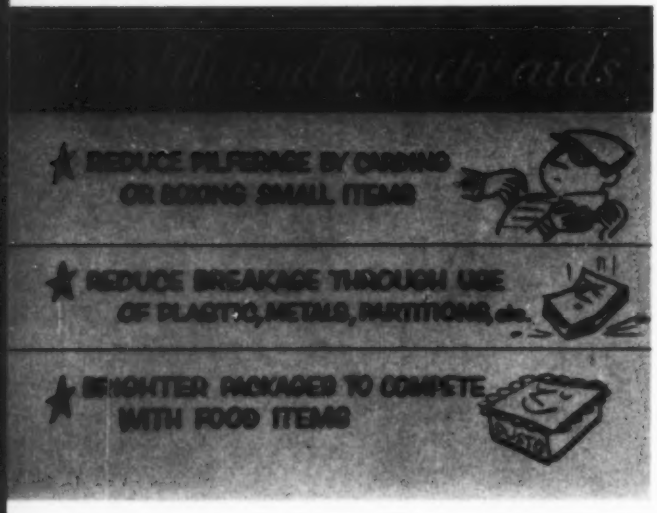
	ESTIMATED STORE GAINS AS % OF TOTAL STORE SALES
GROCERY	2.95
MEAT	2.81
PRODUCE	.64
FROZEN FOODS	.52
BAKED GOODS	.40
DRUG, HEALTH BEAUTY AIDS	.05
DAIRY PRODUCTS	.02
HOUSEWARES, ETC.	.02
TOTAL	7.41%



foods, dairy products, health and beauty aids, and housewares.

They estimate that better packaging in these eight departments could effect savings in costs of 4.55% on total store sales (see Table I) with the greatest potential savings, 2.81%, in the meat department. This amount saved through better packaging, the study revealed, would be not only the equivalent of extra profits before taxes, but an amount of net profit well in excess of that being earned by many supermarkets today.

Sales increases of 7.41% are believed possible through better packaging in the same eight departments (see Table II). The grocery department is singled out as having the greatest potential, 2.95%, of total store sales, followed closely by the meat department, 2.81%.


for private brands
REDUCE PILFERAGE BY CARDING OR BOXING SMALL ITEMS
REDUCE BREAKAGE THROUGH USE OF PLASTICS, METALS, PARTITIONS, etc.
BRIGHTER PACKAGES TO COMPETE WITH FOOD ITEMS

Based on these estimates, the survey indicates that with better packaging, the average million-dollar-a-year supermarket could cut costs $45,000 a year, increase sales $75,000 and add extra net profits of $2,300 per store per year. When compared with the effort any supermarket operator must exert to increase store volume a few per cent, the amount he could add per year through improved packaging—without extra promotion, price cutting, other work or expense—is most impressive.

The fact that many items are still unpackaged in every department points up further possibilities. In meat sales, 51% are now unpackaged; in produce, 47.9%, and in housewares, 21.1%.

What can the packager do to help the retailer realize these opportunities? Specific examples were cited:

- A large Midwestern chain reported many customer complaints because a certain cookie package had no divider to prevent breakage. When the manufacturer put in a divider, the chain's handling costs dropped 7%, net profits rose 7%.
- "Bacon carton too flimsy; easily damaged by customers," reported a medium-sized Midwestern chain. The problem was solved with a sturdy carton that resists abuse. Although sales remained steady, handling costs dropped 15%.
- "Boys' socks won't hang on pegboard . . . are not pre-priced," was the complaint of a medium-sized Southwestern chain. When carded and pre-priced for pegboard sale, the socks registered a 20% sales gain.
- An ice-cream package sold through a medium-sized New York chain had "no appeal . . . dull . . . dead." A new, lively, well-illustrated package for the product boosted sales 25%.
- Cream pies stocked by an 18-state Midwest operator crushed when stacked due to a weak package. A switch to a sturdy carton resulted in a "substantial" sales increase.

Nearly half of the retailers reported that they had, in the six months prior to the survey (1) refused to sell or (2) threatened to stop selling products *solely because of poor packaging*. One-third of the product manufacturers who received the retailer complaints, the store operators say, improved their packages, with the result that sales increases up to 50% were registered in some cases, while retail handling costs dropped as much as 10%. Retail net profit reportedly went up as much as 150% in some cases on improved items.

Of the retailers interviewed, 74% pre-package some meats, mainly in their own stores, while 70% pre-package produce, principally oranges, potatoes and lettuce. More than half sell their own packaged private-brand grocery items.

Retailers have very definite views on annoying packaging problems. Here are some:

Meats: Chicken-parts trays unsatisfactory, awkward to handle. Many meats have limited shelf life. Discoloration is a problem with luncheon meats.

Produce: Control of freshness; too little prepackaging by suppliers.

Dairy: High handling costs of milk; leakage of milk cartons.

Baked goods: Products too easily damaged.

Frozen foods: Many packages take too much space in relation to dollar volume; packages come apart too easily.

Health and beauty aids: Pilferage; difficulty of stacking.

Housewares: Pilferage.

Grocery: Breaking and spilling; selling units not compact enough; difficulty of price marking.

Despite these problems, half of the retailers believe definite progress in packaging has been made in the past year. A full 67% say packaging improvements have been made in the meat department. 61% note advances in produce packaging, while gains are also seen in the packaging of groceries, dairy products and housewares.

In three departments—baked goods, health and beauty aids, and frozen foods—the majority of retailers feel that no progress has been made in the past year. More than 71% say no marked improvement has been made in packaging baked goods; 68% see no gains in health-and-beauty-aids packaging, and 58% believe frozen foods remain unimproved.

Sponsors of the survey point out that these results should not be interpreted necessarily to mean that retailers condemn packaging in these fields. The comments could just as well mean that packaging has done such a good job that retailers are quite satisfied.

Here are improvements retailers are looking for:

Meats:
- Better trays for chicken parts
- More pre-packaging by suppliers
- More product visibility
- Packages that will assure longer shelf life

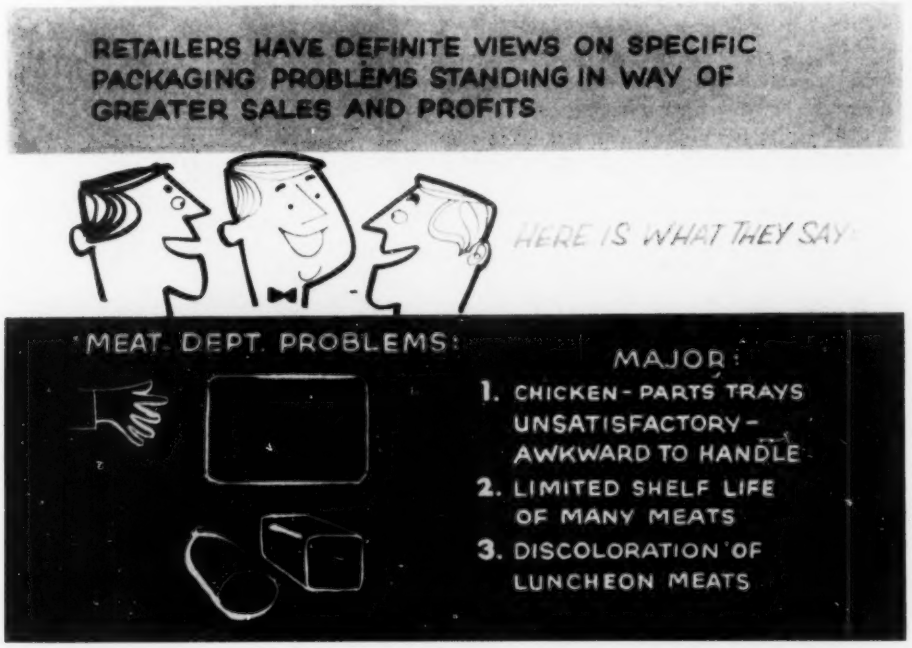
Produce:
- Packages that will reduce spoilage
- More pre-packaging
- Better product visibility

Dairy:
- More visibility
- Leakproof milk cartons

Baked goods:
- Better-looking packages
- Greater product visibility
- Stronger packages

Frozen foods:
- More windows for

[*Continued on page 238*]


RETAILERS HAVE DEFINITE VIEWS ON SPECIFIC PACKAGING PROBLEMS STANDING IN WAY OF GREATER SALES AND PROFITS
HERE IS WHAT THEY SAY:
MEAT DEPT. PROBLEMS:
MAJOR:
1. CHICKEN-PARTS TRAYS UNSATISFACTORY-AWKWARD TO HANDLE
2. LIMITED SHELF LIFE OF MANY MEATS
3. DISCOLORATION OF LUNCHEON MEATS

SURVEY OF A SUPPLYING INDUSTRY

FIBRE

Fibre cans today hold everything from frozen soup to nails. Dollar-wise, the low-cost fibre can is considerably under other competitive package-supplying industries at an estimated business of 855 million, based on figures from Government sources and from the National Fibre Can & Tube Assn.

However, production value has doubled the last 10 years and there are indications that the fibre can's greatest growth is yet to come as a result of new developments offering lower cost, greater product protection, better visibility and convenience in opening.

Food products now take about half of all fibre cans produced. Cans for self-rising biscuits alone now account for a booming billion containers a year, according to the NFCTA.

The original fibre or "all-paper" can is giving way rapidly to the "composite can" or canister. Typical products of the fibre-can industry today may incorporate foil, cellophane, parchment, glassine, metal, plastic or other materials added to the basic paperboard body.

This is a far cry from the first fibre cans that came into use at the turn of the century with the advent of the old scouring-powder container. By 1914 metal ends had been added, paving the way for the fibre can as it is known today.

THE PACKAGE

Historically, the fibre can was preceded by its basic body structure, fibre tubing. The first commercially patented spiral paperboard tube-winding machine appeared around 1870, followed by a convolute winder in 1892 for making flares. Because of this close association, fibre tubing and fibre cans were lumped together by the NRA in 1933 and since then have been classified together by Government agencies and the industry's association itself, adding

Basic shapes of fibre cans include square or rectangular (nail can), round (Scotch electrical tape), oblong (Dif hand cleaner), triangular (Woolene). Most widely used by far is round, which in itself takes widely varying dimensions, as shown by two smaller cans in foreground.

CANS

Technological improvements have vastly widened the field of applications for this low-cost package and, with modernized methods of manufacture now available, even lower costs are in the offing

Old and new uses of the fibre can range from the familiar cocoa and cleanser cans at left to protective and ingenious new constructions such as the laminated structure for prepared biscuits, the two-piece "pump gun" duster for rose dust and the rectangular can for frozen fruits. Typical of new applications are shaker can for bread crumbs and tamperproof mailer package for *Reader's Digest* books. With the simple tube for the glass baster, baster bulb forms closure.

to the difficulty of determining the fibre can's true status as a packaging-supplier industry.

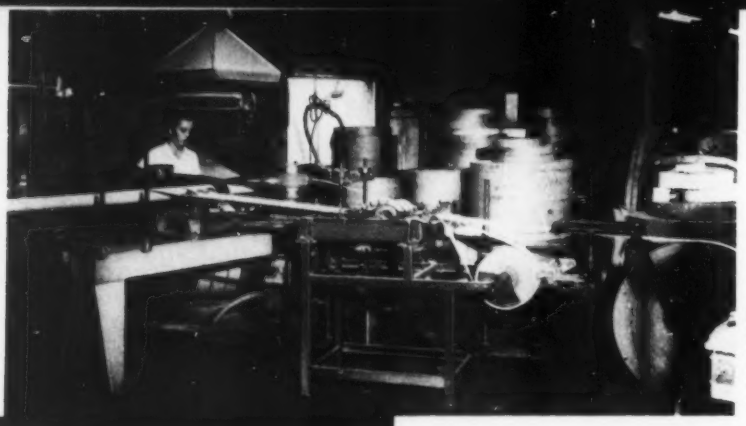
For the purpose of this article, only fibre cans actually used as unit packages are considered. Fibre tubes, cores, bobbins, ribbon blocks, etc., are excluded, as are liquid-tight containers* and bulk-size fibre drums, which are to be covered in a separate article later in this series.

Cleansers, salt, dog food, cereals, battery acid, cosmetics, greases and pharmaceuticals are just a few of the varied products packaged in composite cans.

There are good reasons why fibre cans are used in such divergent product fields. For one thing, they

* See "Paper Packages," *Supplier-Industry Survey*, MODERN PACKAGING, July, 1957, p. 104.

Two methods of manufacture



Spiral winding forms a long tube which is then cut into required lengths for can bodies. Usually only the round fibre cans are made in this way.

Convolute winding produces a somewhat stronger, tighter can body and it is adaptable to the other shapes as well as to the round.

PHOTOS COURTESY R. C. CAN CO.

offer perhaps the greatest flexibility in sizes of all rigid packages. The NFCTA estimates there are at least 100,000 different types and sizes of fibre cans.

Basic shapes include round, oblong, square, rectangular and triangular. Wall thickness may range anywhere from two to 10 plies. Can diameters range from as small as those used for pencil leads up to 16 in. and in step-ups of 0.001 in. Lengths may vary from $\frac{1}{2}$ in. to 10 feet. Most cans are made in the 1- to 5-in. diameter range.

The fibre can's size versatility also is enhanced by lower-cost special tooling, if required; such work is considerably less than for metal cans and is roughly comparable to costs for special glass bottle molds.

These built-in, tailor-made features have resulted in 85% of the industry's packages being made to customer specifications.

There are two basic types of composite canisters, distinguished by their methods of manufacture: spiral wound and convolute wound.

1. *Spiral.* Until recently, round cans only were formed in this manner, by angle feeding of two or more plies of paperboard and perhaps other materials onto a revolving metal mandrel. The rotating mandrel pulls the webs of paper, held taut, around it, one web over another, to form tubing which is then automatically cut to lengths by a knife or saw. These larger tubes are then multiple cut into can lengths, are labelled and the ends attached.

2. *Convolute.* With this method, round, oblong and other shapes are formed by feeding plies of paper or laminating materials at right angles to a rotating mandrel, the plies adhered one to another by a selective adhesive depending upon the end use. The label may be the outer ply or it may be applied separately. The length of the tubing may be that of three to six cans, later cut automatically to size. Affixing the ends completes the can. Convolute cans are considered somewhat stronger and better for holding liquid and semi-liquid products.

With spiral cans, the label may also be run with the tube manufacture. This requires bias printing of the label. Special plies of other material may be liners, inner ply or outside ply, depending on the customer's requirements.

Because low-cost paperboard is the basis of the body, the composite can generally costs less than the all-metal can. Body wall is determined by end use. It may vary from simple chipboard to laminated

constructions that resist pressure, fats, greases, humidity, water, vapor, certain acids and alkalis, temperature extremes, mildew and vermin. Barriers against these conditions are obtained from plies of aluminum foil, glassine, greaseproof paper, parchment and plastic- or asphalt-impregnated papers or saturants.

However, fibre cans have definite product limitations, since they cannot readily be made completely water-vaporproof and usually are not suitable for liquid-tight packaging applications. Most are used for non-hygroscopic dry or viscous products. The permeability of plain-wall cans is often turned to an advantage when it comes to products that need to "breathe," such as cheese or soil inoculants.

One or both ends of the can are closed at the time of manufacture, depending upon the can design and its use. Today there is a wide range of closures to choose from in paper, metal and plastic. These include slip cover, sifter, pour spout, plug, screw, dredge, planetary-turn tops and others. The pack-

New product uses undreamed of only a few years ago are constantly appearing. Here, ready-to-fry pork sausage patties are given the necessary protection by a foil-laminated inner liner and the inclusion of a tear string for easy opening.

Variety of closures and openings for fibre cans is almost endless. Shown here are: (back row, left to right) pour spout, planetary plastic with acetate covering, tear string, foil-paper slip cover, metal screw top, lithographed metal slip cover; (front row) combination foil-paperboard internal shoulder friction-fit cover, pre-perforated metal sifter top closed with pressure-sensitive tape, plastic sifter top, two-piece telescoping construction, dredge top and plug top.

ager may apply these or may fill through a plug top and merely seal the package with the plug.

More recent developments in can-opening convenience, growing rapidly in importance, are the tear-string cans and peel-away body methods found in biscuit cans.

Labels are supplied by the customer, allowing for a vast array of printing techniques. Label materials may include foil, reverse-printed cellophane and high-gloss and embossed paper stocks. These and the paperboard body give fibre cans a "warm" feel, often an important merchandising feature.

The container is light in weight, giving an advantage in shipping costs. Special low freight rates apply to shipments of empty fibre cans.

THE INDUSTRY

Supplying the nation with fibre cans are 53 companies who operate 87 plants throughout the nation, according to the NFCTA. All but four companies are headquartered in the East and Midwest, although some 20 factories or branch plants are located in the South and West.

Only a half-dozen of the larger firms do more than a million dollars worth of business a year. Many fibre-can plants are subsidiary or divisional packaging operations of integrated and diversified packaging suppliers.

Strenuous competition comes from within the industry, from other packages and from the fibre can itself. Probably no other packaging-supplier industry faces greater competition from its own package through "captive plants" than does the fibre can. Many large packagers of cereal, salt, cleanser and other products have their own fibre-can-making equipment, accounting for about 18% of the nation's fibre-can value.

Therefore, one of the industry's problems is obtaining and holding high production runs of a single container. While the industry serves the needs of thousands of packagers by giving them low-cost, tailor-made rigid packages for low production, it has often lost profitable and efficient volume business to packagers who go "captive."

According to the NFCTA, a leading group of about 15 companies account for most of the technical progress in the industry. "Price houses," however, have been quick to seize upon developments of the leaders. Chief competition from other package forms comes from the metal can, set-up box and the folding carton. Other packages have eaten into special segments of the fibre-can business. Rigid plastic containers, for instance, have taken about half the volume that fibre cans once had for pharmaceutical powders.

A major handicap to further growth, which may be removed by current developments, is uneconomical production methods. For years, fibre cans have been produced in separate steps that are often semi-automatic or even hand operations. Integrating more of these processes and changing them to automatic methods will help reduce costs if—an important if—high-volume runs are [*Continued on page 226*]

Steps toward transparency

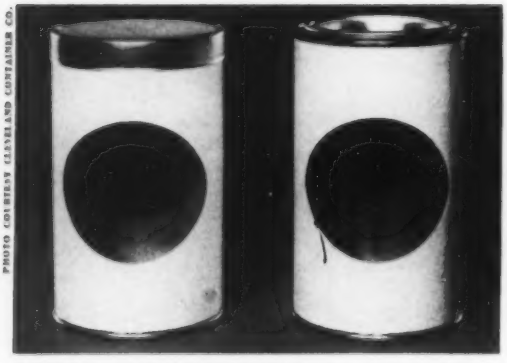


PHOTO COURTESY CLEVELAND CONTAINER CO.

Experimental window can has convolute-wound body incorporating 5-mil sheet of biaxially oriented polystyrene sheet, providing "windows" at either one or two die-cut openings in paperboard. Double-windowed can (left) has slip-cover top; single-window can has friction ring and plug top. Liquid-tight visibility with strength and long life is thus possible.

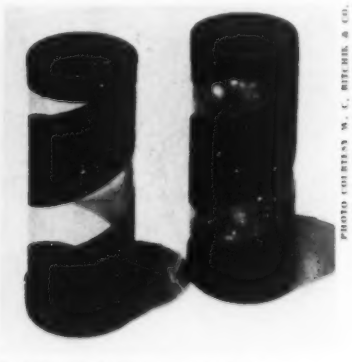


PHOTO COURTESY W. C. RITCHIE & CO.

Spiral window is provided for fibre can with this type of construction, in which alternating bands of acetate sheet and paperboard lap each other. Paperboard lends rigidity and holds cost below that of an all-plastic can.

Pre-attached liner of polyethylene-coated paper is formed and closed integrally with both the top and bottom flaps to achieve a siftproof package. Attached at numerous points inside the blank, the liner will not collapse under normal filling processes. No space is wasted in the package.

Siftproof folding carton

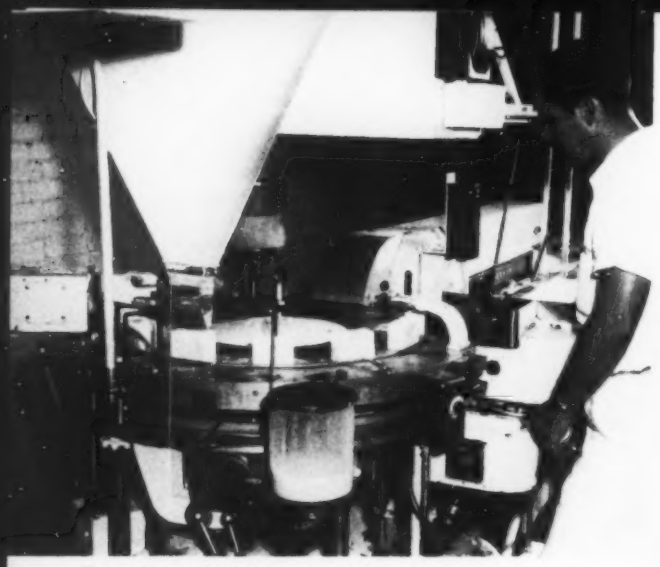
Swedish machine and design, with pre-attached, heat-sealable liner that interlocks with the carton flaps, stops sifting and caking of superfine sugar for Savannah refiner

A package now being marketed by the Savannah Sugar Refining Corp. is significant on two points: it represents another step in the broad movement toward tighter, more functional folding cartons[1] and it marks the introduction into this country of another Swedish-developed packaging system that has been highly successful in Europe.[2]

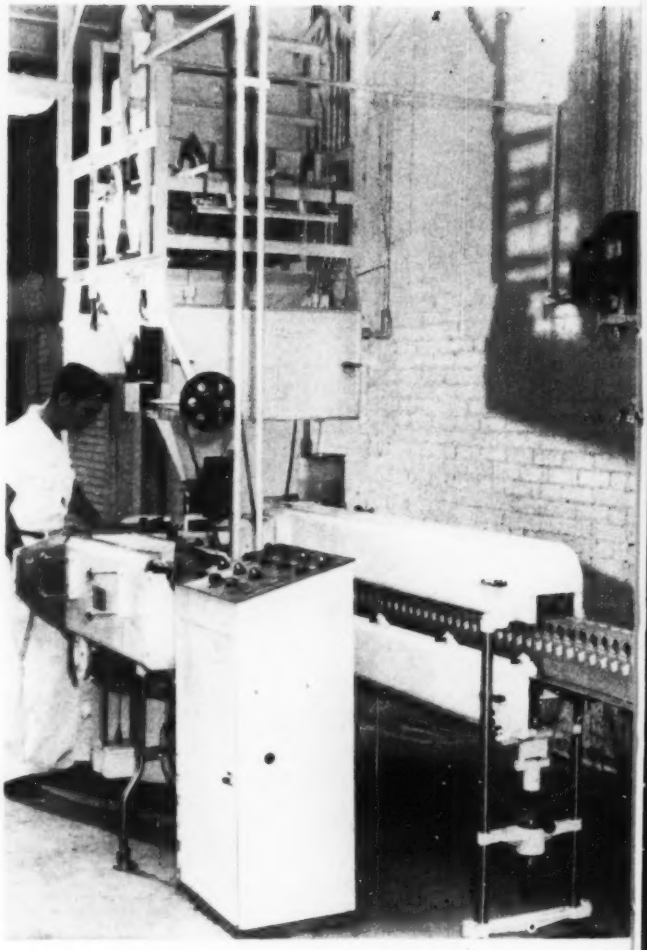
Savannah Sugar is using the Swedish-licensed machine and carton for 1-lb. packages of its Superfine Sugar—a grade which previously presented a serious sifting problem in packages produced on existing equipment.

The new package consists of a carton blank equipped with a pre-attached liner of 20-lb. bleached sulphite paper coated with 0.005 of polyethylene. In the sugar company's Savannah, Ga., plant, the machine—only 8 ft. long by 4 ft. wide—

[1] See "Wrapless, Linerless Cartons," MODERN PACKAGING, Aug., 1957, p. 92.
[2] See "New Shape for Ice Cream," MODERN PACKAGING, Aug., 1957, p. 116.



Traveling clockwise, vertically fed cartons are formed and shaped while metal arms underneath the machine push aside bottom flaps and control the forming and folding of bottom end of liner which is crimped and heat sealed. Carton bottom is glued and folded into sealed position, ready to receive fill. After filling, an arm pushes top flaps out so that top of liner may be formed, folded, crimped and heat sealed. Carton top is glued prior to transfer to compression section.



Completed packages are transferred for discharge at end of compression section. Control panel (foreground) governs entire machine operation. Installation requires only 34 sq. ft. of floor space; one operator can control two machines.

forms, fills and seals this lined blank completely automatically in a manner that reportedly assures a siftproof, moisture-resistant package. Similar packages can be made airtight, odorproof and greaseproof, the supplier maintains, depending on the type of liner used. Even liquid-holding packages have been tested.

Protective aspects of the package, produced on the Swedish machine, are indicated by its wide use in a half-dozen European countries, not only for dry products, but frozen foods of all kinds, including fruits in syrup and spaghetti with meat balls, demanding efficient protection against leaking. In Canada the package is being used successfully for powdered milk. And one foreign installation is for packaging shot-gun shells, sufficiently protected, apparently, to keep powder dry.

Savannah Sugar has been using the new packaging system for more than a year and the company reports that it has had not received a single complaint of sifting or caking of the product since the new package was introduced.

At least seven other U. S. installations of this packaging method have since gone into production or are contemplated for such diverse products as hygroscopic chemicals, dog foods, peanuts, dry milk, liquid starches, soluble coffee and blood plasma kits.

The package

The package differs considerably from conventional bag-in-carton constructions in that the liner is sealed inside the blank as an open-end tube. It is made from a flat sheet with a wide vertical seam folded against itself to prevent wicking and secured tightly along this seam to the blank so that no sifting can take place at the seam.

The paperboard carton blank is designed to pro-

vide protection against the mechanical stresses of handling, storage and transport, while the polyethylene-coated paper lining, as in the case of sugar, provides the barrier against sifting and water-vapor transmission. In other applications, liners of laminated aluminum foil, cellulose acetate, waxed glassine, kraft paper and other materials may be used, depending on the nature of the protection desired.

Test samples filled with raw orange juice, the supplier says, have been so tightly sealed that when the juice fermented, the carton literally blew up from gas pressure inside. In another experiment, cartons filled with water for two and a half years reportedly have yet to leak. End seals supposedly are so strong that when sealed empty cartons are stepped on, the carton itself breaks before the end seals give way.

A plus factor, in the case of the sugar packages, is a reclosing feature, provided by a tab and slot die cut in the blanks. Pouring spouts, it is said, may also be similarly incorporated when needed for dispensing powders and liquids.

Since the liner is attached at numerous points to the interior of the carton blank, it will not collapse under normal filling processes. And space inside the carton may be used completely, as the closure of the liner is actually part of the carton end seal. Waste space required in other types of lined cartons to accommodate the folded-over ends of the liners, therefore, is eliminated.

The machine

For the Savannah packaging operation, the machine is rated as capable of 54 packages per minute. The carton blanks are placed vertically in the feeding hopper by an operator. A slice-type feed engages the leading blank at the glue seam joint and transfers it to the index head of a rotating table. Forming equipment opens the carton and shapes it, while metal arms, set underneath the machine, push aside bottom flaps and control the forming and folding of the bottom end of the liner, which is crimped and heat sealed.

At the next station, the carton bottom is glued and folded into sealed position prior to receiving the fill. Savannah Sugar uses a six-scale sugar filler, set in synchronization so that it operates only when a carton is correctly positioned. If desired, the pack may be vibrated or tamped at this point, where a coding attachment also may be added.

After filling, an arm pushes the top flaps of the carton outward so that the top of the liner may be formed and folded. When it passes the next station for crimping and heat sealing, the liner projects so that neither cover nor contents comes in contact with heat or pressure. The carton top is glued and folded prior to transfer from the revolving table to a compression section. At entry, this section is equipped with 10 in. of heating resistance to aid the setting of the glue. Finished cartons transfer between the lower and upper moving compression belts to discharge point. Operation is automatic and a single attendant can handle two machines.

Machines of this type are quickly adjustable to a number of package sizes, ranging from 2 by $1\frac{1}{8}$ by $3\frac{3}{16}$ in. to $3\frac{3}{4}$ by $2\frac{3}{16}$ by $6\frac{5}{16}$ in. Reportedly, a change in height in a carton requires only 15 minutes, while a complete change of all three dimensions can be made in 50 minutes. A less-expensive, semi-automatic machine is also available that will take packages up to 7 by $3\frac{1}{2}$ by 10 in. Cost of the equipment in both cases compares favorably with other types of cartoning machinery, with certain economies inherent to the integral-liner construction of the carton blank and the space-saving feature of the machine itself, the supplier says.

Supplies and services: *"Hermetet" carton and "Hermic X" machine supplied by The Gardner Board & Carton Co., Middletown, Ohio, under license from AB Esselte Forpackning, Norrkoping, Sweden. Six-scale sugar filler supplied by J. D. Merryfield, Rocky Ford, Colo.*

Convenient reclosure for consumer is accomplished by means of tab and slot die cut in the blank. Pouring spouts may be similarly incorporated for dispensing powders and liquids.

Full-color, fine-screen printing on polyethylene

Progress in full-color, fine-screen rotogravure printing on polyethylene film is impressively illustrated by new bags for Bit-O-Gold fresh carrots, marketed by Merit Packing Co., Salinas, Calif. The company adopted these new rotogravure-printed packages to stimulate impulse sales, believing that the fine reproductions of appetite-appealing dishes would appeal to the housewife. Front of the bags illustrate carrots prepared for table use. One illustration shows a sizzling roast surrounded by baked carrots; another, a crisp, raw carrot salad. A casserole topped with steaming carrots and a relish plate featuring carrot curls appear on the other bags. Reverse side of the bags carries full-color illustrations—one a repeat of the front vignette, the other borrowed from one of the other bags—together with recipes. Background of the bag is ruled in red to impart a rosy hue to the vegetable. Lettering of copy is in white and other accents are in royal blue.

Supplies and services: *Bags by Milprint, Inc., 4200 N. Holton St., Milwaukee 1, Wis.*

Design Histories

For competitive edge, a more elegant package

The kind of packaging elegance demanded to sell in the highly competitive personal-products market today is illustrated by this de luxe miniature hat box for Lady Schick electric razors. The new presentation package will be featured in Schick's Fall advertising campaign.

The box, made of steel covered with simulated leather, is fitted with a brass clasp and has an extruded vinyl plastic carrying strap. A brass ring on the inside simulates a zipper. Paperboard inserts are covered with flocked paper. The platform on which the shaver rests is comprised of a molded styrene base with a flocked vacuum-formed acetate member to form a well for the razor. The electric cord is concealed inside the platform.

Only identifying copy on the entire box is the Lady Schick name on the inside cover.

Supplies and services: *Box made by Babcock Box Co., Inc., Attleboro, Mass., using Dow Chemical Co.'s Styrex for the insert holder and Dow's Styron for the vacuum-formed flocked section. Simulated leather by Athol Mfg. Co., Athol, Mass.*

New way to use acetate sheet

Unusual construction of a pillow-shaped package, combining the advantages of transparent acetate sheet and paperboard, suggests a new way to upgrade the visibility package. The new package has been adopted by Dyer Products Co., Canton, Ohio, for Pow-R-Wrister leather wrist positioners used by bowlers. It replaces a saddle-labeled polyethylene bag.

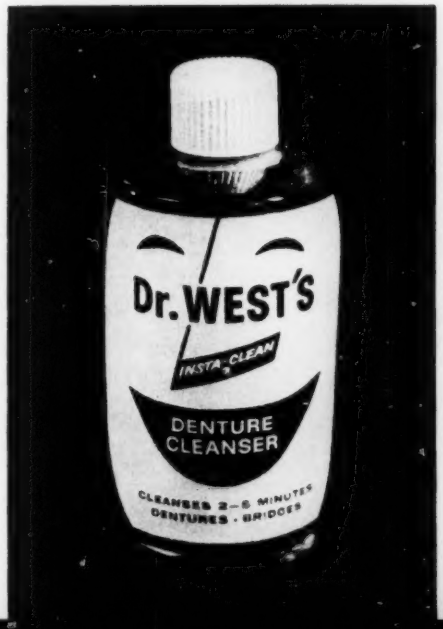
The package is comprised of a 16-pt. carton-stock insert printed in red and black, and a 7-pt. transparent acetate sleeve. Both insert and sleeve have an ear at each end and rounded scores. The insert, complete with product, is placed inside the sleeve. To close the package, insert ears are folded upward and sleeve ears are folded downward.

A dozen of the individual packages are displayed in a paperboard counter carton. Back riser of the carton shows a bowler with a wrist positioner on his arm, ready for action.

Supplies and services: *Design by Smith, Scherr & McDermott, Akron, Ohio. Package and display carton by Continental Can Co., Inc., Gair Boxboard & Folding Carton Div., 530 Fifth Ave., New York 36.*

Design Histories

Smiling label adds appeal to denture cleanser



A new attention-getting idea in labeling is suggested by the caricature of a smiling face worked into a silk-screened design on the bottle for Weco Products Co.'s new Dr. West's Insta-Clean denture cleanser. The technique represents a complete departure from usual staid labels for this type of product. The color label is silk screened in only one color—white. The liquid inside the clear glass bottle is red. With the color of the product showing through the open areas in the silk screening, the effect is that of a two-color label. Below two crescents representing raised eyebrows is the Dr. West's name. Directly below that is the Insta-Clean trade name within a "nose"-shaped panel. The large smiling mouth carries the product identification, "denture cleanser."

The bottle closure can be used as a measuring cup, according to directions silk screened on the back. One cap full of the product in a glass of water is sufficient for cleaning dentures in from two to five minutes.

Supplies and services: *Bottle, cap and silk screening by Owens-Illinois Glass Co., Toledo 1, Ohio.*

Ice mold

Double-duty gift pack holds half-dozen golf balls protected against rubbing in transit due to soft surface of molded polyethylene. Gift card snapped in rim of either half of mold makes an attractive cover to the container. Larger-sized trays hold a dozen golf balls.

As refrigerator tray, re-used package freezes round ice cubes in the exact shape of golf balls as amusing party gadgets.

for golf balls

U. S. Rubber's two-piece polyethylene package doubles as freezer tray from which perfect reproductions of the product can be molded in ice as a conversation maker for highballs

No longer need "water" be associated only with "hazard" in the mind of the golfer. United States Rubber Co. is putting it to more constructive use as a sales inducement in Christmas promotion for golf balls.

The stand-out new package among the group of Christmas gift packages to be offered this year by U. S. Rubber doubles as a polyethylene refrigerator tray that can be filled with water and popped into a freezer unit to turn out golf-ball ice cubes complete with markings and the company trademark, just like the rubber balls.

Used to package the company's True Blue, Three Star and Princess golf balls, the ice-tray package does a smart double-duty promotional job, too, in that it reproduces U. S. balls and gets them talked about in highball glasses. The package is sold at no extra charge in sporting-goods stores as well as in the sporting-goods departments of department stores.

The package destined to stimulate conversation in many golfers' homes this Christmas is offered in two sizes, holding either a dozen or a half-dozen balls.

Seasonal green in color, the container is injection molded in two identical halves, each half having molded-in compartments shaped and marked exactly like halves of golf balls. The golf balls are filled in the bottom half and the top fits down over the balls when the container is closed. The two halves are fastened by molded-in quick-snap-fit dowel pins on two sides and thumbnail grooves are provided at the sides for easier opening.

The gift balls are held securely in the tray package by a single sheet of 5-mil polyethylene film placed in the bottom mold before the balls are inserted and folded over the tops of the balls before the covering mold is positioned. This keeps the trade markings always straight up when the package is opened.

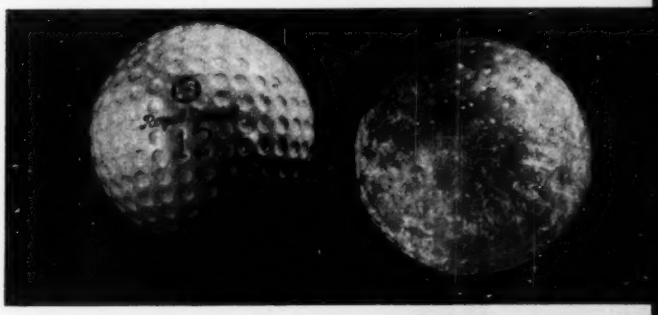
The complete package is inserted in a chipboard sleeve for shipping.

A Christmas card in traditional green and red, with space for written message, comes with the package. This card also serves as an ingenious method of squaring off the box, as it snaps right under the rim of either half to make it the top of the container by concealing the under side of the mold.

Each package contains simple, easy-to-follow instructions on making the ice balls. The golf-ball cubes are first frozen as halves and removed from the refrigerator. The two halves are pressed together and put back into the refrigerator for five minutes or until they freeze together to form a single ball.

Designed to appeal to both men and women as a gift item, the tray package is being recommended for a number of re-uses: as an egg tray, a tray for cuff links or similar trinkets, a mold for gelatin dishes and frozen desserts—even as storage space for extra golf balls.

Supplies and services: *Polyethylene tray package originated and manufactured (patent pending) by Pyro Plastics Corp., Pyro Park, Union, N. J. Polyethylene molding powder by Bakelite Co., Div. of Union Carbide Corp., 30 E. 42 St., New York 17.*



Molded ice cube (at right, above) duplicates trade markings of actual golf ball, does extra promotional job for U. S. Rubber by getting talked about in highball glass.

Plastic cork

Molded polyethylene stopper for champagne costs half that of cork, is easier to apply and seals better, users say. Ridges in cap help secure wire hood; horizontal ridges around hollow tapered stem act as series of gaskets inside bottle neck.

In merchandising champagne, the package may be as important as the product. The traditional heavy glass bottle, the wire hood around the neck, the popping cork—all add to the ceremonial pleasure of a champagne celebration. All the more surprising, then, that U. S. West Coast vineyards, who have an interest in preserving this nostalgic pleasure, are shifting rapidly to a sterile white plastic stopper, molded of polyethylene, for their champagne production.

One company that has switched 100% to polyethylene stoppers is Almaden Vineyards, Los Gatos, Calif. Almaden uses the new stopper for the bottling of all its white and rosé champagnes and sparkling burgundy.

"From a production viewpoint," says Olie Goulet, Almaden general manager and winemaker, "the polyethylene closure has many advantages over the old wooden cork. What's more, our salespeople have been enthusiastic about the change ever since we first suggested it."

In making the change, the vintners have apparently suffered no loss in the esthetic value of their product. The plastic stopper still accommodates a wire hood: it has been molded into the characteristic mushroom shape familiar to champagne drinkers and it still jumps out of the bottle neck with a satisfactory pop. Moreover, the new cork gives the consumer some true benefits. Molded into the plastic rim is a serrated edge that makes it easier to twist the cork while removing it.

"For the first time I can serve champagne without worrying about someone to open the bottles," a hostess has reported to an Almaden distributor.

Of further value to the consumer is the fact that the new cork can be reinserted to extend the life of an opened bottle by several days—something that could seldom be done with a tightly compressed cork.

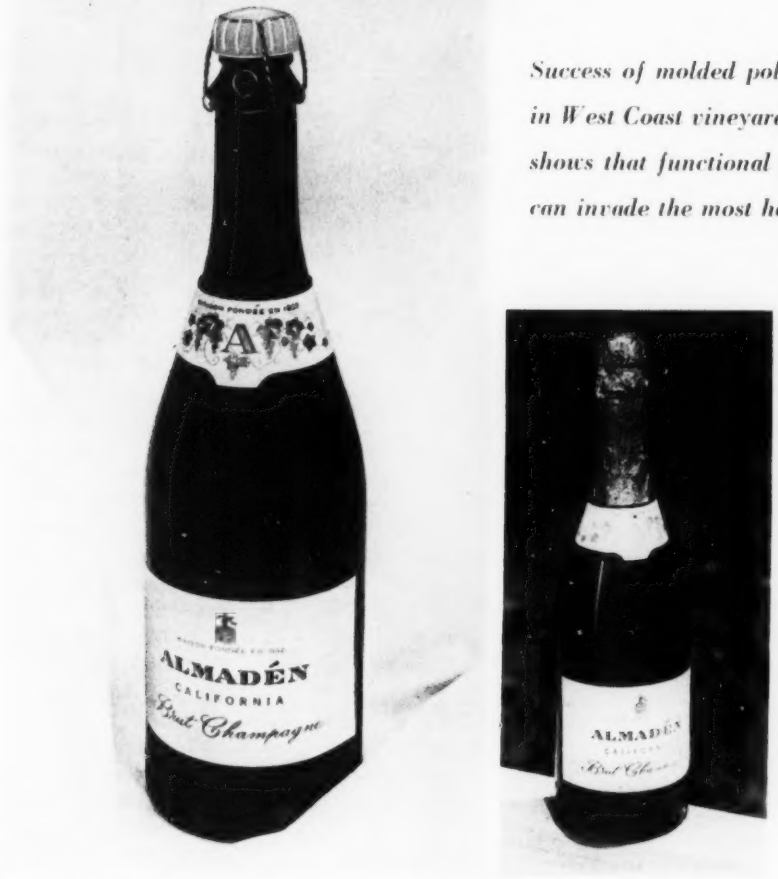
The major benefits, however, accrue to the winemaker. Polyethylene stoppers, at approximately $30

Easily seated with a rubber mallet, the polyethylene plastic stopper eliminates special machine required to compress and insert natural cork.

Final sealing is accomplished on the same machine that applies and tightens the conventional wire hood. This is a special champagne capping machine, made in France.

for champagne

Success of molded polyethylene stopper in West Coast vineyards shows that functional plastics can invade the most hallowed of traditions



Completed seal has traditional appearance of champagne bottle closure, is more easily removed and replaced. Foil cap completes the package, which looks conventional when viewed in store.

per thousand, cost only half as much as corks, which are made up of five to seven separate pieces of cork, laboriously glued together. Moreover, the natural corks have to be inserted by a special machine that compresses the cork to the inside diameter of the bottle neck and forces it into place. The new stopper is simply tapped into the neck of the bottle with a mallet and securely seated by the same machine that ties the wire hood. The incidence of "leakers" (after an early, difficult period) is now lower with polyethylene than with cork.

In modern methods of producing champagne, corking is the last step before the wine is labeled and shipped. The champagne in the bottle is then three years old, made from a partially aged wine, "ameliorated" with sugar and yeast, and sealed with a standard crown cap. At the end of the aging period, the champagne is clarified and recapped. A wire hood, foil cap, neck and body labels make Almaden's product ready for shipment.

Internal pressure, at time of shipment, is approximately 80 lbs. and the stopper must hold this pressure for the two or three [*Continued on page 242*]

Supplies and services: *Polyethylene stopper developed and supplied to Almaden Vineyards by Berkeley Yeast Co., 3176 College Ave., Berkeley, Calif.; molding and mold development by Automatic Plastic Molding Co., 830 Bancroft Way, Berkeley.*

Improved drums with universal liner are inspected at weighing station by the author (left). Note improved external appearance as contrasted with old drum, right. One problem was to find a special white ink that would not yellow at lining temperatures above 400 deg. F.

Solution of a drum-liner problem

How GE found a single two-coat copolymer system that would handle the whole range of its costly and hard-to-package silicone resin fluids under one specification

*By Reuben Gutoff**

Perhaps the outstanding characteristic of the silicone industry has been its ability to develop new products or adapt existing ones for use in an almost countless number of different applications. Without this ingenuity, the industry could not have prospered because a mass market has not developed for any of its several hundred different products.

There have been innumerable problems, not the least of which has been to find suitable shipping containers. In our case, drums and pails with a special epon-alkyd liner were used for a long time for the bulk of our shipments, with only occasional failures. But with products averaging more than $3 per pound, even infrequent losses caused by container-lining failures were costly. Even more important in deciding to make a change was the need to maintain complete customer satisfaction in an intensely competitive market.

These were our problems:

1. A wide variety of products. Some of our products contain 100% inert silicones, others up to 90% active solvents. They include emulsions, which may be easily broken; cosmetic fluids, which must be completely protected from odors and discoloration; hydraulic and lubricating fluids which must be kept free of foreign particles of even the smallest sizes; and highly catalyzed resins which will solidify if the catalyst is activated.

*Manager, Resins & Fluids Operations, Silicone Products Dept., General Electric Co., Waterford, N. Y.

2. A wide variety of shipping and storage arrangements. The only relatively common element in shipping of most silicones is that it is done by truck in 55-gal. drums. But many drums go by ship to Europe and Asia and many are stored for long periods before use. The problem of full protection during storage is further intensified in that the industry has attempted to have its most popular products in inventory, ready for immediate shipment.

3. High-cost, high-quality materials. Silicones are specialty products, made to exacting quality-control standards. And with these typical prices for 55-gal. drum lots of typical products—$830, $946, $1,347.50, $1,694 and $2,227.50—customers are extremely sensitive to deviations, real or imagined, from those standards.

4. A problem of our own making. We wanted a universal liner which could meet all our handling problems, thus simplifying our own inventory problems and eliminating the errors possible if different liners were specified for different products.

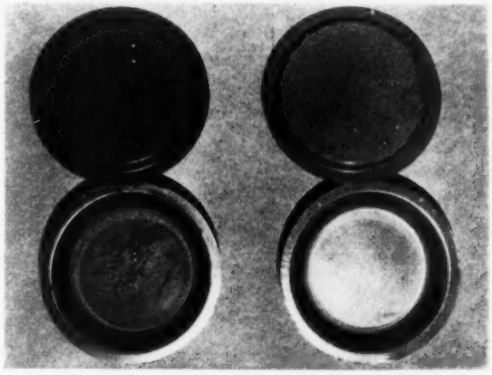
5. Another problem of our own making. We sought to solve all the problems with a universal liner at a price at which we could continue our policy of furnishing the containers to the customer on a no-return, no-charge basis.

It took us, with the cooperation of our drum supplier, many months to solve the problem. Most of the time was spent in devising and testing new materials, because we learned very quickly that none of the standard drum liners would be feasible. Along the line there were many disappointments because some liners showed great promise before exposing a weakness.

Organics such as the epoxies and phenolics did particularly well, but showed an Achilles heel to silicone masonry water repellents and electrical resins. Reformulation to make the lining harder improved resistance to solvents, but created problems with brittleness and adhesion to the drum.

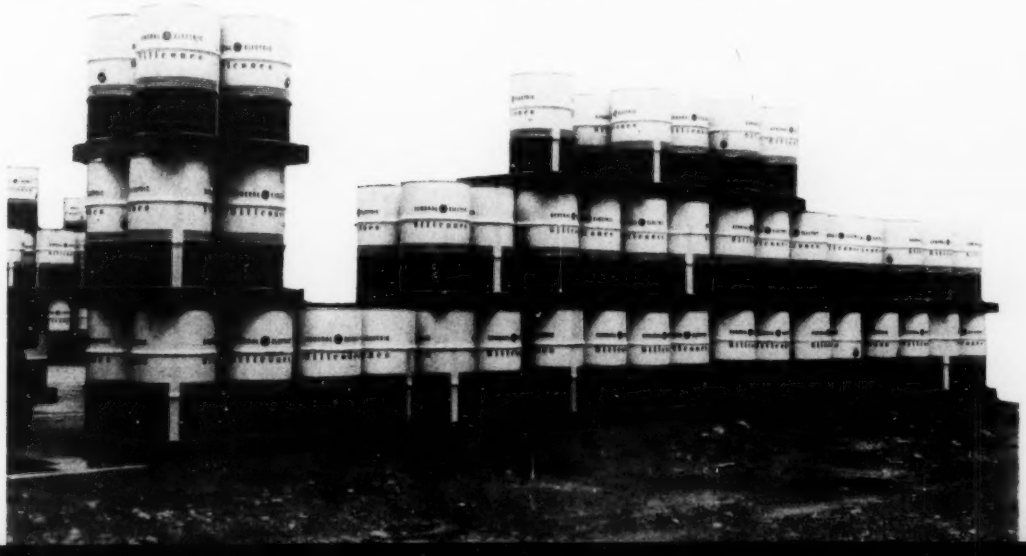
Poor performance in contact with solvents was also a problem with polyethylene liners and bags. These liners were weakened, softened and distorted by exposure to such materials as xylene, toluene, methanol and xylol. Of course, glass could have solved the solvent problem, but its initial high cost plus the risk of breakage ruled it out. Cost—about $2.25 per drum lining—also ruled out the vinyl chlorides, as it did special alloy drums, although both probably would [*Continued on page 255*]

Supplies and services: *Lithographed drums supplied by Rheem Mfg. Co., 301 Chelsey Ave., Richmond 4, Calif.*

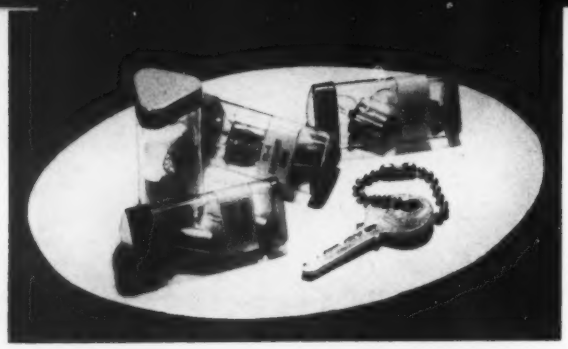


Test cups proved effectiveness of the new liner. Lined cups were half filled and lined lid was clamped tightly to base during the controlled test period at high temperatures. Liner illustrated at right passed the test; the other failed.

Outdoor storage of new drums at GE's Waterford plant. Complicated inventory problem of having a drum specifically lined for each silicone product is eliminated by new universal liner.



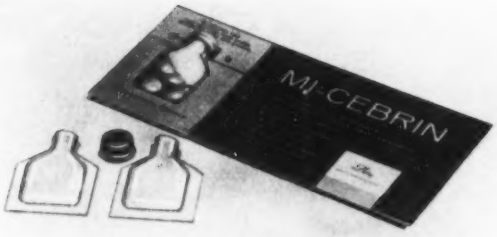
Packaging Pageant



1 Larger unit sales are the aim of a new triangular package extruded of clear, transparent cellulose acetate butyrate for two flashlight bulbs, introduced by Westinghouse Electric Corp.'s miniature-lamp department. The package also is aimed at building brand preference in self-service outlets. Closures are color keyed for easy selection and stock control of the four different types of bulbs packaged. Container and caps, Extruded Plastics, Inc., Norwalk, Conn., using butyrate by Eastman Chemical Products, Inc., Kingsport, Tenn.

2 Eastman Kodak Co. continues to demonstrate the display impact of photographic realism on the package with high-gloss set-up-box wraps for Kodak camera outfits featuring full-color photographic reproductions of picture-taking situations. The Brownie De Luxe package shown here is one of five new outfit packages featuring latest-model Kodak cameras.

3 With a pressure-formed, carded package, Eli Lilly simulates an actual bottle—to metal cap and cotton wadding in the neck—for professional sampling of Mi-Cebrin vitamin-mineral-supplement tablets. Two flanged thermoformed halves of cellulose acetate give the effect of the bottle shape when held between thicknesses of a double-latexed card with perforated tear-off tab. Package, Paper Package Co., Indianapolis, using Celanese acetate.

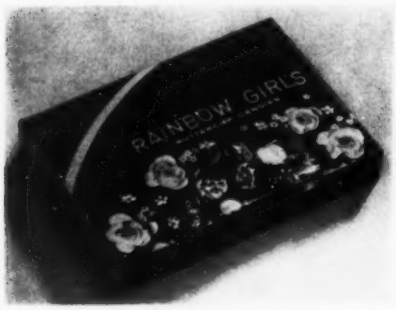


4 Stand-out look of hand-blown Scandinavian glass is the aim of this pinch-bottle fifth of Publicker Distillers Products, Inc.'s Kinsey Golden Gin. It features cobweb surface design, bronze-colored foil label, pressure-sensitive metallic gold ribbon, gold-colored urea cap. Bottle, Armstrong Cork Co., Lancaster, Pa. Closure, Anchor Hocking Glass Corp., Lancaster, Ohio. Label, Foilcraft Printing Corp., Brooklyn. Ribbon, Delaware Ribbon Mfrs., Inc., Philadelphia, Pa.

5 A fibre can with snap-in polyethylene pouring spout (see "Fibre Can with Plastic Sifter Closure," MODERN PACKAGING, Sept., 1957, p. 178) facilitates dispensing Bits O' Sunshine garbage-can deodorizer, a product of Frank J. Curran Co. Separate cap is also made of polyethylene. Container, pouring spout and cap, The Cin-Made Corp.,

6

7



8

9

10

Cincinnati, Ohio. Label, The G. A. Ackermann Printing Co., Cicero, Ill.

6 Joining the trend to easier-opening packages are these four- and five-pack units of E. Regensburg & Sons' Admiration and Medalist cigars. Cellophane overwrap is fitted with gold-bronze-colored cellophane tearing tape that strips off to expose the cigars. Zip-Tape, The Dobeckmun Co., Cleveland, Ohio.

7 Imprinted puzzles and games give premium appeal to carry cartons for bottles of Welch's Grape Juice Co.'s grape juice. To stimulate impulse sales, only one side and one end of the carton give product information; the rest is taken by one of a series of eight children's puzzle and game cut-outs. Carton, New Haven Board & Carton Co., New Haven, Conn.

8 A miniature stage set was spotlighted and photographed to obtain the realistic third-dimensional effect on this full-color lithographed carton with acetate window for Rainbow Girls Buttercup Candies by Miss Saylor's Chocolates. Carton, The Lord Baltimore Press, Inc., Baltimore, Md. Acetate for window, Celanese Corp. of America, New York.

9 Gold color of the foil overwrap is one of the eye-catching elements of Frigidmeats, Inc.'s Breaded Veal Steakettes package. Six-color rotogravure wrap features tempting vignette of the product ready to eat. Back panel gives cooking instructions and sauce recipes. Wrap, Western Waxide Div., Crown Zellerbach Corp., San Francisco.

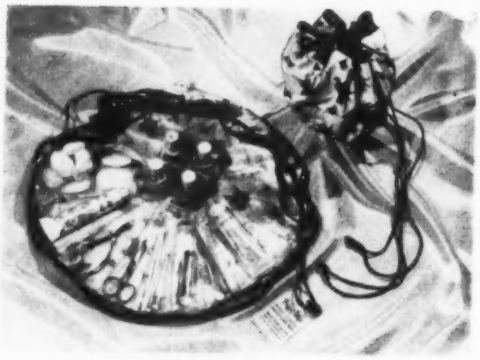
10 Designed for the dining table—both in primary use of its contents and in reuse as a water tumbler—is Wilson & Co.'s new 5-oz. glass container of ham- and chicken-salad spreads. Lower half of the glass container is ribbed for decorative purposes and for safer gripping. Jar, Owens-Illinois Glass Co., Toledo, Ohio. Lithographed metal closure, The White Cap Co., Chicago. Label, Rotogravure Packaging, Inc., Addison, Ill.

11 Dripless spout and color-keyed caps are built-in convenience features of three marine lubricants introduced by Plowman Co. under the Blue Bay trade name. Each type of oil has a different

color of cap for instant identity: blue for marine-engine oil, red for diesel-engine oil, yellow for outboard-motor oil. Outward-curved lip of can is designed to prevent spilling and dripping. Cans feature four-color lithographed seascape. Cans, American Can Co., New York.

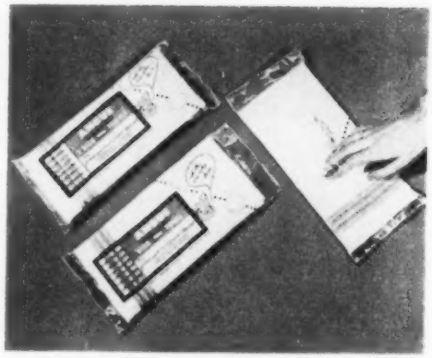
11

12 Manicure-set packaging that departs from the traditional is Peggy Sage, Inc.'s functional new Magic Circle Manicure Bag. Held closed by a drawstring, the vinyl-film-lined chintz bag spreads flat when open to form an 18-in., doily-shaped work base to protect lap or table. Inside pockets contain manicure implements; base of bag is a fabricated cellulose acetate holder for four liquid manicure items plus lipstick. Plastic holder, Valley-National Corp., Milldale, Conn.



12

13 Transparent polyethylene film bag for Angus Mills' dish towels lets consumers actually feel the product without disturbing contents. A "skip-seal" opening at the back of the bag permits shoppers to reach in to check towel quality. Bag, Lassiter Corp., New York., using Visking polyethylene film.



13

14 Here is Old Forester 1957—Brown-Forman's third-year follow-up to its history-making stand-out decanter of 1954 (see MODERN PACKAGING, Dec., 1954, p. 110). Phenolic closure and polystyrene base are gold sprayed. White shield label is gold-colored embossed foil. Gift carton is white, with red and green decorations. Decanter and carton design, Raymond Loewy Associates, New York. Decanter, Owens-Illinois Glass Co., Toledo. Label, The Foxon Co., Providence, R. I. Carton, Lord Baltimore Press, Baltimore.

14

15 Bold, uncluttered design is the graphic strategy to make this package for private-brand White Arrow detergent, produced by Armour & Co., stand out on shelves of Winn-Dixie stores. Carton is four-color printed in scarlet, white, yellow and black. Design, Robert Sidney Dickens, Inc., Chicago. Carton, The Ohio Boxboard Co., Rittman, Ohio.

15

16 McIlhenny Co.'s traditional Tabasco pepper-sauce package goes to modern pictorial design in a push for more supermarket sales. New carton is litho-

graphed with full-color illustrations of dishes (with recipes) calling for Tabasco. One panel retains Tabasco's familiar tilted-bottle illustration. Background color is deep yellow, broken by bars of white. Individual and display cartons, Container Corp. of America, Chicago.

17 Two rhinestone-studded toothbrushes by Tek-Hughes are given full visibility for counter display in a set-up box with transparent acetate cover. Concave paperboard tray insert on which brushes rest is letterpress printed in three colors with rhinestone motif to continue the jeweled effect. Box, Warner Bros. Co., Box Div., Bridgeport, Conn.

18 Further trend to fine-screen printing and upgrading with full-color appetite-association techniques is seen in Jackson Brewing Co.'s six-pack carry cartons for 12-oz. cans of Jax beer. Tempting reproductions of a foaming glass of Jax beer and various cheeses cover the entire front panel of the six-pack. Carton, Lengsfield Bros., Inc., New Orleans, La.

19 After 75 years of marketing its ketchup only in a 14-oz. size, H. J. Heinz Co. is going national with a family-size, 20-oz. bottle. The new, large container is identical in appearance to the traditional size, except that its neck label bears the legend, "Family Size." Successful test marketing bore out Heinz' reasons for introducing the new size: trend to suburban living, which means fewer trips to store, more outdoor eating; larger families; new cooking uses for ketchup. Bottles, Armstrong Cork Co., Lancaster, Pa.; Owens-Illinois Glass Co., Toledo, Ohio, and Anchor Hocking Glass Corp., Lancaster, Ohio. Lithographed metal closures, Aluminum Co. of America, Pittsburgh, Pa. Paper labels, The Nevins Co., Clifton, N. J., and Lehmann Printing & Lithographing Co., San Francisco.

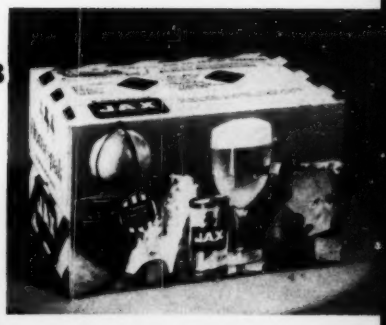
20 Vinyl plastic bands solve the problem of attaching free premiums to jars of The Kroger Co.'s salad dressing. The band slips easily over both jar and recipe-book premium, binding them securely. Imprinted on bands in blue lettering is notice of 7-cent coupon inside the recipe book. Vinyl bands, Rapid Ribbon Corp., Montrose, N. Y.

16

Packaging Pageant

17

18



19

20

Hand packaging

Ingenious jig with rubber rollers adjusted to diameter of cylindrical product supports strip of single-face corrugated, fluting up, on which five pump-shaft seal units are laid end to end for wrapping.

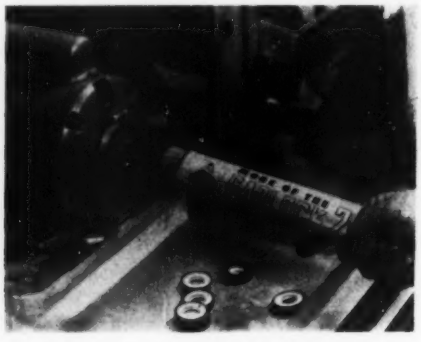
For companies with a wide line of products, mechanized packaging of all goods may not always be feasible. But where hand packaging is necessary, engineering of fixtures, jigs and motions with the same ingenuity used in planning machine operations can produce some impressive results in protection, sales and economy.

Advantages that can be gained by this approach to hand packaging are demonstrated in a new method of packaging one of the more than 2,000 products made by The Garlock Packing Co., Palmyra, N. Y., which is credited with reducing packaging costs, including materials and labor, by 70%. The company's experience indicates that hand packaging of many types of products can be made more efficient and effective if both the package and the operation are planned on a rational basis, so that the work flows smoothly with no waste motions.

Garlock is said to be the world's largest manufacturer of gasketing, seals, packing and sealing materials used in machinery of all kinds. One of these products, known as the Mechanipak seal, fits

Hand roll forms the corrugated wrapper into a tube, which is then sealed tight by a printed, gummed paper label as the package is turned between rollers.

Open end of tube as it appears prior to the crimping operation.



End closure is formed by pushing open ends of tubular package against a motor-driven spinning head that crimps corrugated tightly over edge of product.

can be engineered

Efficient set-up of roller jig and motor-driven spinner head enables Garlock to package pump fittings in corrugated rolls better, faster and at a 70% saving in cost

over the shaft of a small pump to prevent leakage.

The seal consists of a metal shell with a spring-loaded rubber bellows at one end. The filled carbon facing of the bellows rides on a circular, stationary seat of ceramic or metal.

Formerly, each seal was packaged individually in a cylindrical paperboard carton with cotton batting between the two sections to absorb shock. This container cost 7 cents and, despite the batting, transmitted external shock to the product, frequently resulting in failure.

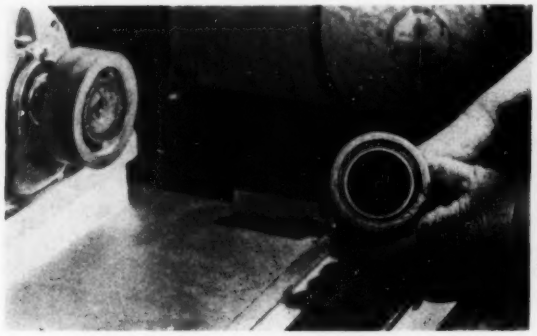
To provide better protection in shipping and storage and to reduce costs, a new package was designed so that five seals could be packed in a wrapper of single-face corrugated. A small roller jig and a motor-driven spinning head were devised and made in the plant to facilitate the wrapping operation. The jig consists of two small rubber rollers held parallel in a horizontal plane by slotted metal strips at each side of the wrapping table. The rollers can be moved into various slots to accommodate seals of different size.

A sheet of the corrugated material is first laid on the rollers with fluting up. Five seal units are then arranged in tandem on the board, between the rollers, with stationary seats at each end. The operator attaches a wide, printed, gummed label to the under side of the far flap and rolls the near edge forward to form a tube that is sealed tightly by the gummed label as it turns against the rollers.

Each open end of the tube is then pressed into a spinning motor-driven head designed to crimp it over the edge of the stationary seat, forming a strong and shock-resistant "shotgun shell" closure.

The resulting package costs only 2 cents per seal —5 cents less than the former package. Since mechanical seals are sold chiefly as replacement parts, Garlock reports that the new five-unit multipack wrap also simplifies storage and handling problems for customers as well as for themselves.

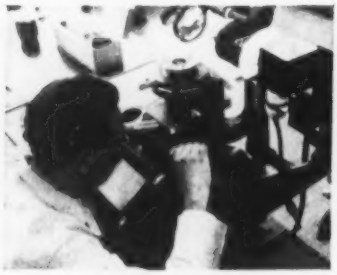
Supplies and services: *Corrugated wrapper by Sherman Paper Products Corp., 156 Oak St., Newton Upper Falls 64, Mass. Label tape by Gilman Paper Co., 630 Fifth Ave., New York 20.*



Shock resistance of corrugated spun tightly against face of stationary seat at each end of package is reported high. No further closure is needed to ship multipacks in cartons.

Multipacked in corrugated wrapper, pump-shaft seals get better protection from shock in shipping than when packaged singly with cotton batting between sections (shown cut open at left).

Owens-Illinois Assures You A Complete Packaging Approach



Co-ordinated Research

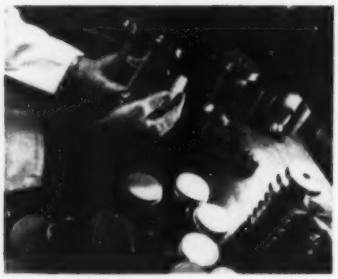
Pure research into fabrication of glass, *packaging research* into processing and handling methods in customer plants, *market research* into consumer attitudes. All add up to greater packaging value.

Engineered Design

At Owens-Illinois, your package's *three* needs are taken into account: 1) Considerations of its function in the retail store, 2) its operating efficiency, and 3) its consumer utility.

The Right Container

Versatility of facilities and talents make O-I your best source of supply. In container development—beauty, utility, tradition are blended in the right proportions for your product's needs.

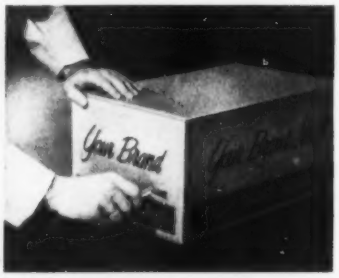


The Right Closure

Through long and continuing research O-I has developed the most advanced metal and plastic closures. Helping you choose the right closure is another function of O-I's packaging service.

Needed Fitments

O-I specialists are keenly aware of sales benefits derived from plastic shaker and pour-out fitments which are not "gadgets" but which increase consumer satisfaction with your product.



Merchandising Cartons

Modern cartons are developed only through systematic consideration of their opportunity to serve you in the retail store and warehouse . . . as well as on your own filling line and in transit.

Handsome, functional custom-designed containers in clear glass and amber can be your most effective sales tool

So attractive . . . so effective . . . Custom-designed Duraglas containers

The correct container, custom-designed by Owens-Illinois, can be your most effective sales tool.

Its distinctive appearance draws the shopper's eye—quickly creates a favorable first impression—faithfully expresses your product's quality and character. And to help you win repeat sales, its functional design makes your product easy to use, keeps it fresh from the first time it is used to the very last.

At Owens-Illinois, the correct container—custom-designed or stock mold—is but one step toward effective salespackaging. Label designs, special fitments, metal and plastic closures, proper closure liners, merchandising cartons—all are part of the Packaging Service offered you by Owens-Illinois.

For complete details, call the Owens-Illinois branch office near you today.

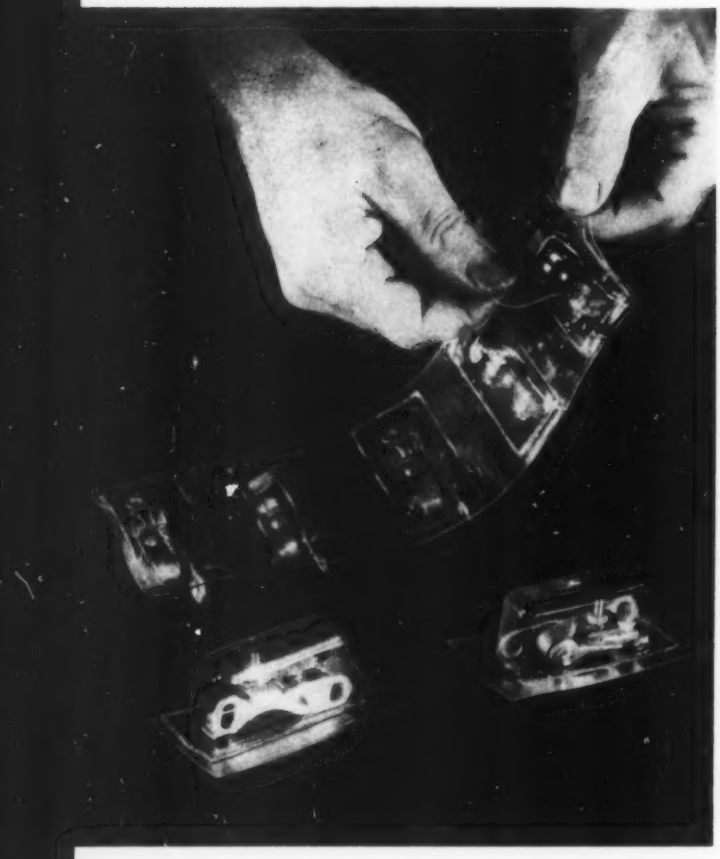
DURAGLAS CONTAINERS
AN (O) PRODUCT

OWENS-ILLINOIS
GENERAL OFFICES · TOLEDO 1, OHIO

Contoured transparent unit for contact set provides instant identification, protects it from handling and atmospheric contamination. Shipper-display carton holding 10 units, has a scored riser flap with die-cut trademark.

THERMOFORMS

Flexible strips containing five parts are conveniently scored for separation into individual packages. Flange at side is for easy opening.



A thermoformed plastic package with "total visibility" for automotive parts has proved to be the answer to Holley Carburetor Co.'s quest for improved distributor-display packaging and, at the same time, demonstrates some efficient new techniques in the volume production of packages thermoformed of cellulose acetate sheet.

Of special significance is the entry of this type of visibility packaging into the automotive-parts industry—a trend which, because it is actually more economical than conventional carton packaging, appears certain to grow.

The basic package for Holley parts consists of a flanged, rectangular, formed-acetate cup closed with a flat, printed acetate sheet electronically heat sealed over the top.

Since its preliminary trial for contact sets (the distributor "points" so frequently replaced in motor tune-ups), it has shown so many advantages that it has become firmly entrenched in Holley operations, gradually supplanting other package forms for the company's high-volume automotive replacement-parts business. Among corollary benefits are: savings in shipping charges, savings in package cost, savings in labor and sizable reductions in necessary storage space in Holley's plants and on the distributor's premises.

The tamperproof visibility feature is especially attractive to Government suppliers whose products thus can undergo periodical regulation inspections in storage without any damage to their packaging. And Holley's pioneering, apparently, has ironed out some of the problems of thermoform packaging with acetate, a material which is of considerable interest to manufacturers of pharmaceutical prod-

Loaded formed piece of 50 pockets is shown here with top sheet in place, ready to be run through heat-sealing machine at Holley's Bowling Green, Ky., plant, which closes five or 10 packs at a time. Workers behind operator drop parts into the thermoformed pockets. Empties are stacked in front of them.

FOR AUTO PARTS

Holley Carburetor's success with an all-acetate package for contact points, giving improved merchandising at lower cost, appears likely to start a trend in Detroit

uets because of its reportedly non-toxic properties.

Details of the design and the machinery to form and heat seal the contour pack were worked out by a Holley affiliate (specially set up to handle the packaging) and the machinery manufacturer. Heat-sealing problems for the acetate material were solved by means of special electrodes developed for the high-frequency electronic sealer.

The contour for the contact set, the first item to be packaged, required a fairly deep draw necessitating careful adjustment of sheet gauge to avoid thinning of the package at the corners. The package is gang formed by drawing 150 cups in a 0.012-in.-gauge sheet of cellulose acetate. A thinner-gauge acetate sheet, about 5 to 7 mils, is heat sealed across the cups once they have been loaded. For the contact sets and condenser sets, the cups measure approximately 2 in. long by ½ in. wide by 1 in. deep.

To achieve this contour, the fabricator uses a combination of straight vacuum forming with some supplementary pressure. The top sheet is supplied either plain or silk screened with company name and product name and number in a repeat pattern corresponding to the number of cups so that, after heat sealing, each package is plainly identified. For smaller-volume parts, cards carrying product identification can be inserted into the cups before an unprinted sheet is heat sealed across the top.

Machine capacity is in the range of 20,000 to 30,000 packages per day. A complete cycle for forming, loading, sealing and cartoning 150 individual packages can be completed in 1½ min., but Holley found that separating the forming and loading fitted better into its manufacturing set-up during the trial phase of the new operation. The company's Kentucky plant was designated as the trial production area, but Holley's plastic affiliate manufactured the blisters and the silk-screened top sheets in Michigan. Both operations were coordinated by transporting the plastic parts by company plane to a distribution center in Bowling Green, Ky., where the packaging was done.

A sheet of 50 cups is loaded manually and run through the heat-sealing machine, which closes either five or 10 at a time, simultaneously scoring the sheet between the packages so that they can be easily torn apart. The sheet is slit into strips of five. A double flange [*Continued on page 233*]

Supplies and services: *Cellulose acetate sheet by Celanese Corp. of America, 180 Madison Ave., New York 16. Thermoforming by Holley Plastics Co., 22757 Hoover Rd., Van Dyke, Mich., using thermoforming and heat-sealing machines by Mayflower Electronics Devices, Inc., 20 Industrial Ave., Little Ferry, N. J. Folding cartons by Paper Package Co., 1036 N. Capitol Ave., Indianapolis 6, Ind.*

Packaging Institute program

The concept of 'packaging-merchandising' as an increasingly vital role for tomorrow's package highlights the 19th Annual Forum, Oct. 28-30

Growing awareness of the power of the package to do its own thorough merchandising job amid today's hot competition (and tomorrow's double dose of the same) is the keynote of the 19th annual Packaging Institute Forum, to be held at New York's Hotel Statler Oct. 28-30. Packagers are responding to preliminary forum announcements with an advance registration that seems sure to push total attendance above 1955's record 1,500. The forum program has been diversified for the widest possible interest to PI members and non-members.

Theme of the forum, "Planning Tomorrow's Package Today," will be set by the keynote address to be delivered at the opening luncheon on Monday by F. S. Leinbach, executive vice president of Riegel Paper Co. and a former president of the institute.

Keen interest has been expressed in the first presentation of the Institute's Corporate and Professional Awards to a corporation and an individual, respectively, for highest technical achievement in packaging. The institute hopes to establish these awards as the highest honors in the industry and has named two top-flight juries of industry leaders to decide on the first recipients. The awards will be conferred at the annual dinner on Monday evening. In addition, the institute will make its own "MVP" award—a prize for the most valuable paper presented at the forum, chosen on the basis of content alone.

Two other industry honors will be announced at the dinner. The winner of the first MODERN PACKAGING fellowship for graduate study in packaging at Michigan State University will be announced by Charles A. Breskin, publisher. Also at the dinner, presentation of the National Starch Products-Packaging Institute scholarship for undergraduate study at Michigan State will be made.

Keeping pace with the forward-looking tenor of of the forum, the Packaging Institute has coined the term "packaging-merchandising" to describe the advanced content of the Monday afternoon seminar of that name. Evidence that even this new concept already is being outmoded by the evolution of a more basic economic tool of "packaging-marketing" will be forthcoming at the seminar.

For the other Monday seminar, Walter Byrd of Standard Brands, Inc., has rounded up some hot-off-the-griddle items of current research and new developments; these will be reviewed in rapid-fire 18-min. presentations.

One special event on Monday and Tuesday will be the exhibit of prize-winning flexible packages in the National Flexible Packaging Assn. competition. These packages will be on view in the Gold Room Foyer for the two days of the forum.

On Tuesday there will be an all-day seminar on applications of bleached board, known to packagers until recently as special food board. The revolution in end use that forced this change in nomenclature has been so widespread in effect that the seminar has grown into one of the lengthiest and best-attended programs of the forum.

Another full-day seminar on Tuesday (with twice as many speakers as last year) will be devoted to the extremely active and influential field of drug and pharmaceutical packaging.

A special presentation by *Life* magazine, planned to provide some general lessons in successful production and distribution techniques, will be the chief feature of the packaging luncheon at 12:30, Wednesday. Business meetings of the technical committees of the institute have been scheduled for Wednesday afternoon.

All forum activities are open to non-members as well as members. There will be one basic fee of $15 a day for attendance. The annual dinner, including the president's reception, will be $12.50 and the luncheons $6.

The compiete program follows:

Monday, Oct. 28

9:00 **Registration**

10:00 **Call to Order**

President's Address: A. Douglas Murphy, Esso Standard Oil Co.

Annual Business Meeting of the Packaging Institute

12:15 **Opening Luncheon of the 19th Annual Forum**—Main Ballroom, Hotel Statler

1:00 **Keynote Address, Planning Tomorrow's Package . . . Today,** F. S. Leinbach, executive vice president, Riegel Paper Corp.

2:00 **Package-Merchandising Seminar,** J. Gordon Lippincott, Lippincott & Margulies, Inc., industrial designers, Chairman

Package-Merchandising in the Multiple-Unit Store, Donald J. Lecker, Sears, Roebuck & Co.

Package-Merchandising in the Textile Field, Warren E. Drury, *America's Textile Reporter*

Package-Merchandising in the Department Store, George R. Bell, The J. L. Hudson Co.

Package-Merchandising in the Small Appliance Field, D. L. McFarland, General Electric Co.

Package-Merchandising in the Food Field. (Speaker to be announced)

2:00 **Packaging Research and Development Seminar,** Walter J. Byrd, Standard Brands, Inc., Chairman

A condensed, rapid review and preview of the latest developments in the many facets of the industry covered by the Packaging Institute. Each paper limited to an 18-min. presentation

6:00 **President's Reception**

6:30 **Annual Awards Dinner of the Packaging Institute**

Tuesday, Oct. 29

9:30 (full day) **Bleached Board Applications Seminar,** Milton Yezek, Carton & Container Div., and William H. Enzie, Birds-Eye Div., General Foods Corp., Co-chairmen

Manufacture and Characteristics of Bleached Board, Vance V. Vallandigham, Potlatch Forest, Inc.

Functional Coatings and Adhesives on Bleached Board, L. J. Wood, Jr., National Adhesives Div., National Starch Products, Inc.

Printing and Converting Problems of Bleached Board, William Hasselo, Container Corp. of America

Heat-Sealing Forming Equipment, Sydney R. Phin, Package Forming Machinery Co., Ltd.

Bleached Board as Corrugated Liner, William T. Nye, Gaylord Container Corp., Div. of Crown Zellerbach Corp.

Moisture Measurement of Bleached Board, William Schoenberg, Lord & Schoenberg, Inc.

Bleached Board for Milk Containers, T. E. Dobbins, Non-Metallic Container Group, American Can Co.

Bleached Board and the Flip-Top Box Story, W. N. McFadden, Philip Morris, Inc.

Bleached Board in the Frozen Food and Ice Cream Industry, David B. Andrews, Marathon Corp.

New Packaging Applications of Round Nestable Paper Cups and Containers, Philip A. Stokes, Dixie Cup Co.

Bleached Paperboard Applications in the Meat Industry, Frank Yankoviak, Sutherland Paper Co.

Tetra-Pak—A New Food Board Container, Dr. J. S. Barton, Western Waxide Div., Crown Zellerbach Corp.

9:30 (full day) **Drug and Pharmaceutical Seminar,** C. B. Burnside, Eli Lilly & Co., Chairman

Today's Package Development Equals Tomorrow's Profit, John A. Walls, Rexall Drug Co., Moderator

What Is Package Development, G. J. Schleck, Merck & Co., Inc.

Package Development at Procter & Gamble, R. E. Belliveau, The Procter & Gamble Co.

Facilities, Standards and Personnel for Package Development, H. E. Nack, Packaging Consultant

New Packaging Horizons, C. V. Peterson, Ciba Pharmaceutical Products, Inc., Moderator

The Collapse of Time, L. H. Zahn, Ciba Pharmaceutical Products, Inc.

Genetron Plastic, Film and Tubing in Packaging, Robert Kurtz, Unette Corp.

It Helps If You Know Where to Look, Charles A. Lewis, Director, Business & Defense Services Administration, Containers & Packaging Div., Department of Commerce.

Kel-F—Halogenated Fluorocarbons—Plastic for Packaging, Dr. H. S. Kaufman, Chemical Div., Minnesota Mining & Mfg. Co.

9:30 **Bag and Bulk Packaging Seminar,** O. J. Burkland, E. I. du Pont de Nemours & Co., Inc., Chairman

Stepped-End Multiwall Bags, J. R. Murphy, Owens-Illinois Glass Co.

Multiwall Bag Test Methods, G. T. Stewart, The Dow Chemical Co.

Can Handling Methods for Cost Reductions and Increased Speeds, L. Hennig, American Can Co.

Industrial Bulk Packaging, M. L. Croom, E. I. du Pont de Nemours & Co., Inc.

12:30 **Packaging Luncheon**

T. F. Davies Haines, president, Ciba Pharmaceutical Products, Inc., will address this mid-seminar luncheon.

Monday and Tuesday Special Event

Exhibit of prize-winning flexible packages of the National Flexible Packaging Assn. Competition will be on view in the Gold Room Foyer during Monday, Oct. 28, and Tuesday, Oct. 29.

2:30 **Flexographic Printing Seminar,** Alexander R. Bradie, Mosstype Corp., Chairman

New Mechanical Techniques in Flexographic Printing of Paper, William Rohm, Royal Lace Paper Works

Printing of Halftones, Screens and Bendays on Film, Karl Weik, Cello-Foil Products, Inc.

Artwork for Pictorial Reproduction, James H. George, Goodren Products Corp., and Crystal Transparent Corp.

Multicolor Art and Presswork for Folding Cartons, Frank Longenecker, Simplex Paper Box Corp.

Relation of Equipment to Print Quality, Robert Zuckerman, Kidder Press Co.

Relation of Supplies and Inks to Print Quality, Frank Hamel, Jr., Bensing Bros. & Deeney

Consumer Reaction to Flexography, Norman A. Olson, Sears, Roebuck & Co.

Flexographic Questionnaire Survey Report and Analysis, Milton Bennett, Cellu-Craft Co., and John Cozza, Diaphane Corp.

[*Program continued on page 233*]

Attention getter for more comfortable shave

Max Factor, Inc., enters the pre-shave toiletries market with a product called Pre-Electric Shave Lotion.

It is presented for counter selling in a folding display carton printed in strong green, black and white, carrying promotional copy on the back riser piece and all around the base of the unit.

On the riser, a line drawing of a male face wearing a satisfied grin promotes the convenience of shaving "faster, smoother, better." A prominent place is provided for price spot. The green color of the lotion showing through the clear glass bottles picks up the green of the display. On the front panel of the base, copy reads: "try it for a truly super shave."

The red and black pin-stripe labels give family identity to this new member of Max Factor's men's line. The display holds six of the sturdy-based square bottles with polystyrene screw caps.

Supplies and services: *Display by Ace Carton Corp. of California, 13,400 E. Nelson Ave., Puente, Calif. Bottles by Carr-Lowrey Glass Co., 2201 Kloman Ave., Baltimore 30, Md. Plastic closures by Armstrong Cork Co., Lancaster, Pa.*

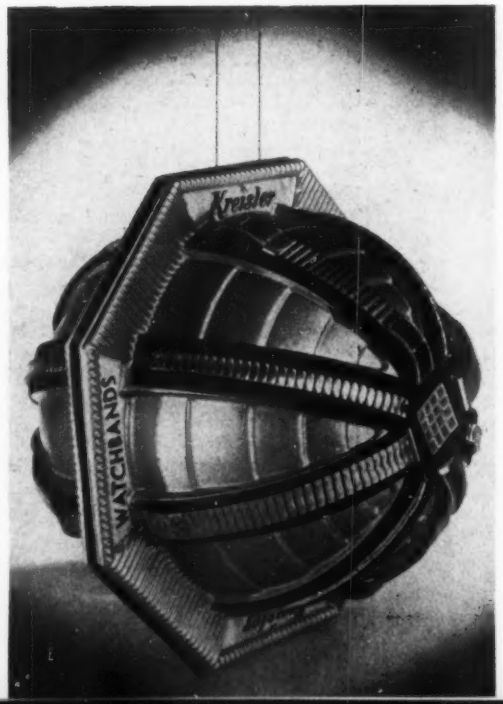
Display Gallery

Whirling satellite

Planetary motion is simulated by a new point-of-purchase display for watch bands by Jacques Kreisler Mfg. Co., North Bergen, N. J.

Suspended from almost invisible heavy-duty nylon cord, the motor-powered, plastic "planet" rotates on its own axis, at the same time revolving around a fixed center. The globe, vacuum formed in two halves of high-impact polystyrene, was created to display 16 watch bands at one time. Surface of the sphere, which is ridged for greater strength, is finished in two metallic colors. Clusters of mirrored squares decorate the flattened polar areas of the sphere. The watch bands are mounted on strips of velour. Eight of the bands are displayed on each hemisphere. Brand and product identity are printed in black on white satin pads, sandwiched between the flanges by which the two hemispheres are joined. The flanges are cut out to allow the satin pads to show through.

Supplies and services: *Display by Mayland Co., 112 E. 19 St., New York 3. Metalized polystyrene by The Gilman Bros. Co., Gilman, Conn.*



Some free light on the subject

An economical self-illuminated display that steals its light from a retail store's own overhead lighting fixtures is being distributed to the stationery trade by the Pencil Sales Div. of Joseph Dixon Crucible Co., Jersey City, N. J. The ceiling-suspended unit, dubbed the "Light Thief," is simply a boxed piece of paperboard, open top and bottom, that channels light from above, through the unit and to merchandise placed below.

The display is lithographed with die-cut lettering through which fire-orange fluorescent paper on the inside causes the Ticonderoga trademark to stand out vividly. Departmental signs, such as "School Supplies," which can be hooked on to the bottom of the main display, are also furnished to increase its utility for the retailer. The display may be hung on wall fixtures or over counters of shelves with equal success, provided it catches the light from a fluorescent fixture. The piece is supplied free to Ticonderoga dealers complete with additional paper window posters and departmental signs.

Supplies and services: *Paperboard display by Einson-Freeman Co., Inc., Starr & Borden Aves., Long Island City 1, N. Y.*

Display Gallery

Help-yourself dyes

A handy, gravity-feed, pre-packed paperboard self-service merchandiser is being used by Park & Tilford to introduce three new fall colors to its line of Tintex dyes. Colors chosen for self-service merchandising (ruby red, forest green, royal blue) are expected on the basis of fashion predictions to be the season's best sellers. The merchandiser, a dispensing type, holds nine dozen cartons of dyes equally divided into four stacks among the three colors and Tintex Color Remover. In making her selection, the customer pulls the desired package from the bottom of the stack, where a die-cut finger hole helps in easing out the package.

The full stacks of cartons are visible through die-cut openings in the face of the dispenser so that inventory needs can be checked at a glance. A colorful "before and after" photograph on a riser flap above the dispenser delivers an effective point-of-purchase sales message. The whole dispenser occupies only 13½ sq. in. of counter space.

Supplies and services: *Paperboard display by L. H. Philo, 160 W. 34 St., New York.*

Continuous flexible vacuum

Improved machine as used by Goetze for sliced luncheon meats works from webs of double-coated polyester film, pre-forms a cavity and turns out neat packages at up to 80 a minute

Mechanized film packaging of sliced luncheon meats by Albert F. Goetze, Inc., Baltimore, incorporates three notable advances in the rapidly changing field of flexible vacuum packaging:

1. It uses one of the first continuous, automatic machines which works with web-fed film rather than prefabricated pouches.

2. It combines a type of vacuum forming with vacuum packaging, for a neater package.

3. It employs an advanced product of film-coating technology—a basic polymer-coated polyester film to which is added either a heavy coating or an extruded lamination of polyethylene.

As a result, the appearance, stackability and shelf life of Goetze's packages have all been improved, with resulting sales increases.

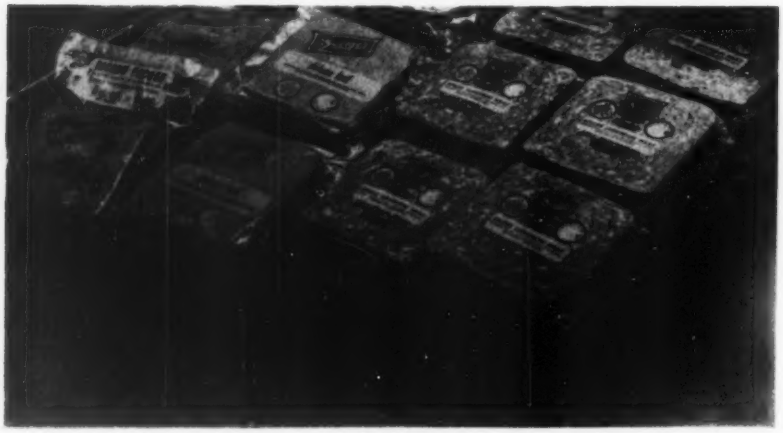
This is the second installation of the new machine incorporating improved features that permit increased efficiencies.

Meat that has been sliced and stacked by high-speed equipment is vacuum packaged at rates up to 80 units per minute by the new automatic machine, reducing the loss of flavor and color due to exposure between slicing and packaging. The resulting package, only 4½ in. square including ¼-in. sealed edges, is smaller, neater and easier to stack than the conventional prefabricated pouch used for vacuum packaging such products. The use of polymer-coated, ½-mil polyester film with either a 2-mil inside coating or extruded lamination of polyethylene (the material is supplied both ways) is said to increase shelf life of packaged meats in display cabinets by as much as 50%.

The basic polyester film gives great strength to the package. The outside polymer coating makes it a superior gas barrier. The inside polyethylene surface adds several properties, including a vacuum-tight heat seal. One of the two webs of film, as it enters the machine, is heat softened and drawn into vacuum cavities which form it to fit the stacks of meat.

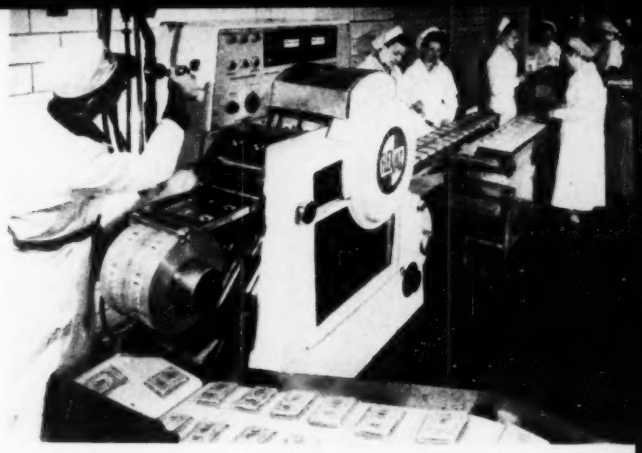
The new machine, also available in models for gas packaging, can be quickly adjusted to turn out a two-unit multipack. It can also be set up to package about 40 stacks per minute of sliced meat or cheese 4 in. wide by 8½ in. long. This versatility, combined with labor and material savings and the merchandising appeal of the finished package, make the new machine worthy of study by food packagers.

Goetze has been vacuum packaging some of its

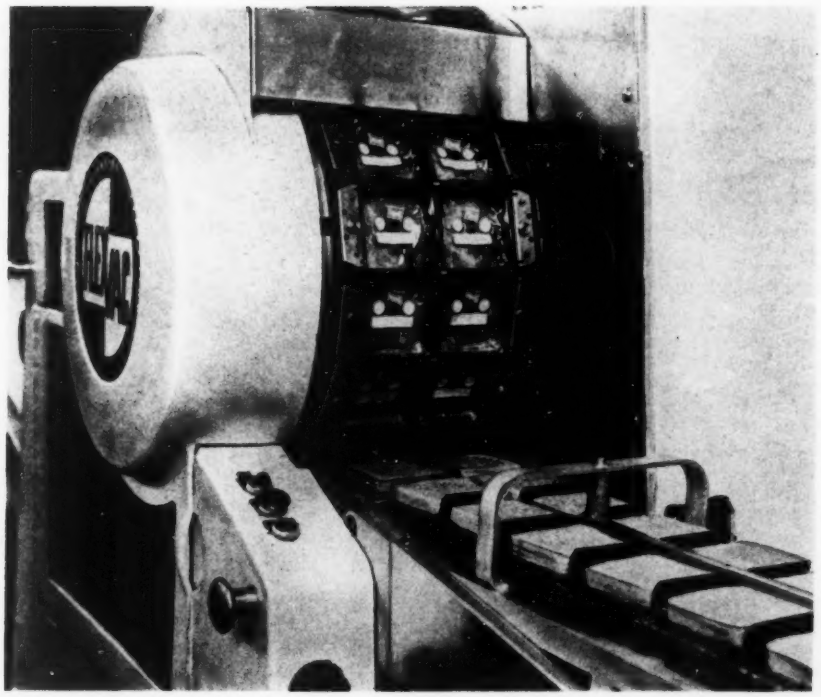


Squared stacks of luncheon-meat slices in their new vacuum-formed package (two right-hand rows) look neater and take less space in refrigerated cases than packages made of flat film with wide wrinkled edges. Edge of new package is only ¼ in. wide and has small slits marked "tear" on one side for ease in opening.

packaging



45-ft. packaging line. Photo shows (right to left) high-speed slicer and stacker, check-weighing station from which stacks of meat are transferred by conveyor to vacuum packaging machine. Completed packages emerge ready for loading into folding cartons of 1-doz. units.



Close-up view of vacuum packaging machine. In-feed conveyor transfers stacks of meat to a flat web of film fed from roll under conveyor. Printed top film web is vacuum formed in drum cavities and deposited in turn over meat stacks. Top and bottom webs are heat sealed on three sides. After air is expelled, the fourth side is sealed and the completed packages are cut from web.

nearly 40 meat products for about seven years, using semi-automatic machines to vacuumize and heat seal prefabricated pouches.

The new automatic machine uses two rolls of the double-coated film to form packages around incoming stacks of sliced meat, evacuating air, heat sealing edges and cutting units for ejection at high speed. Film in one roll is pre-printed with product identification, inspection copy and price-stamping space in red, yellow and black, two labels across the web width.

The new package is free of the wide, wrinkled edges resulting from the use of flat film for a relatively thick product, which makes the conventional pouch difficult to stack neatly in a refrigerator floor stand. The new packaging material, reportedly, also provides a better gas barrier to maintain the meat's color and flavor about 50% longer.

For easy opening, there is a small slit at each end of one edge of the package, marked "tear."

The company packages about 12 different sliced luncheon meats, such as bologna and spiced ham, on two 45-ft.-long lines, each equipped with one of the new automatic packagers. Made in loaves with either a round or square cross section 4 in. wide, the meats are automatically sliced and stacked in 6-oz. piles about ¾ in. high at one end of the packaging line.

Midway between slicer and packaging machine, operators lift meat stacks from the conveyor belt with spatulas to transfer them to the two-lane, infeed conveyor which is part of the packaging ma-

chine. Some stacks are check weighed at this point.

At the packing machine, two side-by-side stacks of meat slide from the in-feed conveyor onto a web of unprinted film, feeding from a roll under the conveyor. Meantime, the web of labeled film feeds from a roll at the other side of the date-printing roller, then into the top of the machine. Electronic controls assure a label registration.

Inside a large drum are two rows of vacuum-molding cavities, each about 4½ in. square and not quite 1 in. deep, around its perimeter. As printed film enters the top of the machine, heating lamps dry the printed date and soften the film for forming. Air is drawn from holes in the bottom of each cavity, pulling the film into it to form bubbles in pairs.

The turning wheel closes the bubble-formed top film down over the two stacks of meat entering the machine on the flat bottom film. Top and bottom webs are then heat sealed together at three edges and between the two stacks of meat. Air is drawn out of each package through tubes inserted in the unsealed edges, which are subsequently heat sealed. Horizontal and vertical slicers cut two packages from the web and separate them from each other for ejection from the packaging machine.

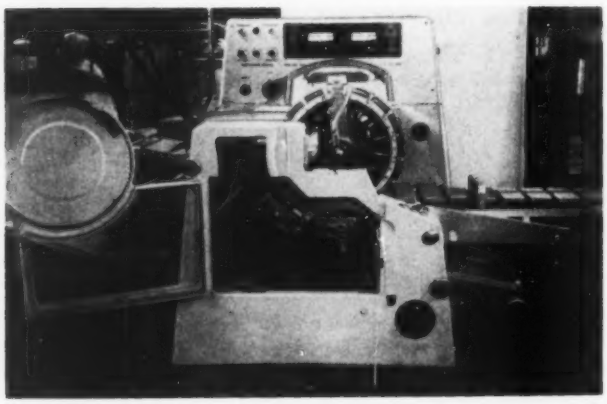
Although Goetze has so far packaged only individual units, the machine can easily turn out double-unit packages by eliminating the final slicing operation. By changing bottom plates in the vacuum-forming cavities a maximum depth of 1 1/16 in. can be achieved for packaging 8-oz. stacks of meat slices.

Setting up the automatic machine takes about five minutes for each of the two film rolls and the company gets about 40,000 square packages per printed roll. At Goetze's plant, air pumps on the floor above are directly over each of the two vacuum-forming packaging machines and connected to them by rubber tubes.

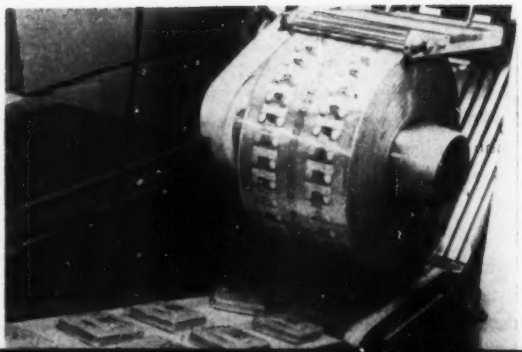
From the packaging machine, the sealed meats travel in a double row on a belt conveyor to operators who load 1 doz. packages into a paperboard carton. Corrugated shippers hold six cartons.

Goetze has been using the new package only a few months, but believes it is directly responsible for sales increases in the products so packaged. Retailers report that longer shelf life of these meats enables them to order in larger quantities and reduce handling costs. They also find that meat packaged in this way stacks more neatly and takes less space in a refrigerated floor stand than pouch-packaged products. And finally, the trim new film package is extolled by dealers as being much more attractive to their customers.

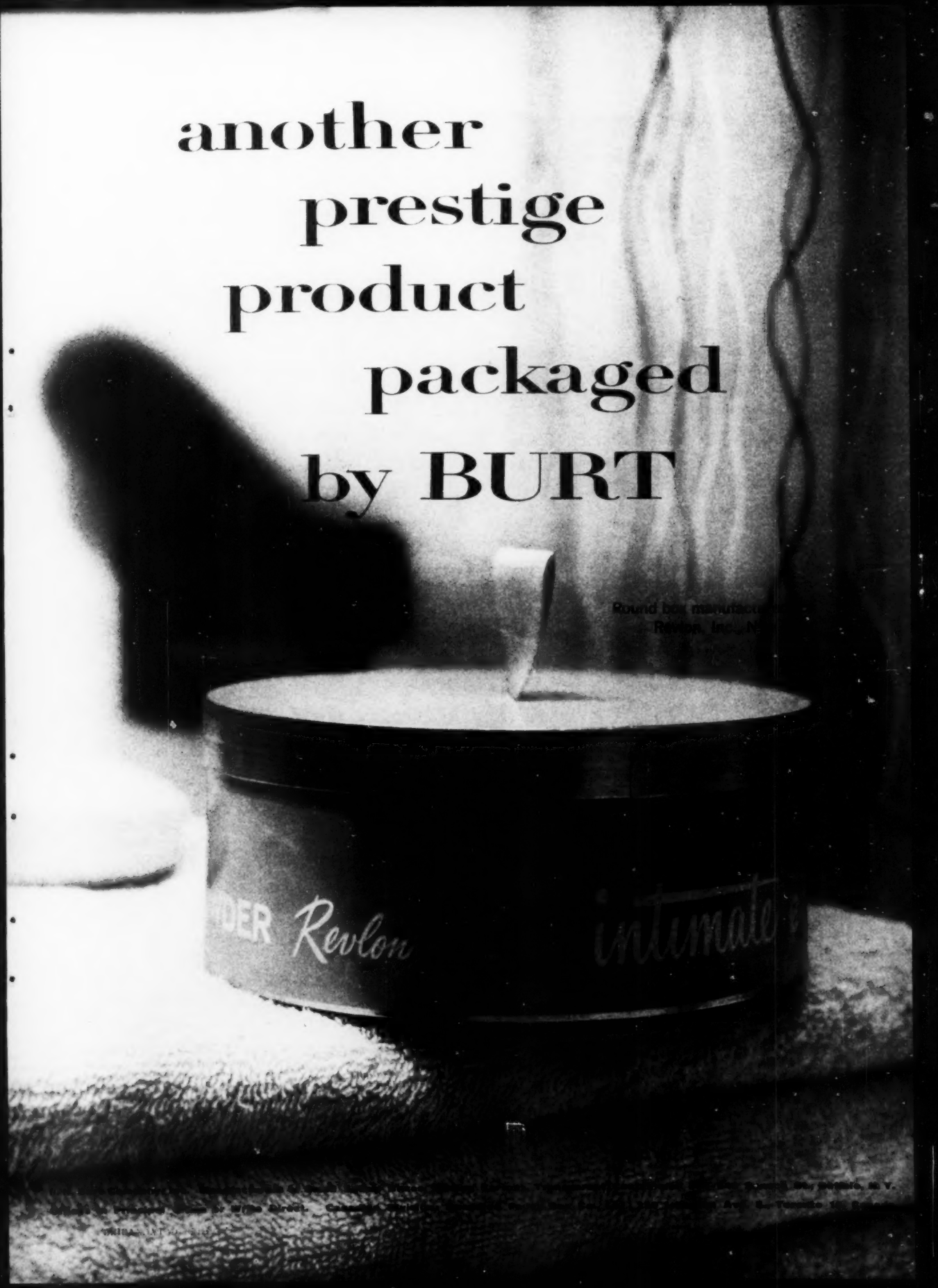
Supplies and services: *"Flex-Vac 6-12" packaging machine and film (a combination of polyethylene with DuPont Mylar polymer-coated polyester film) by Flex-Vac Division, Standard Packaging Corp., 551 Fifth Ave., New York 17.*

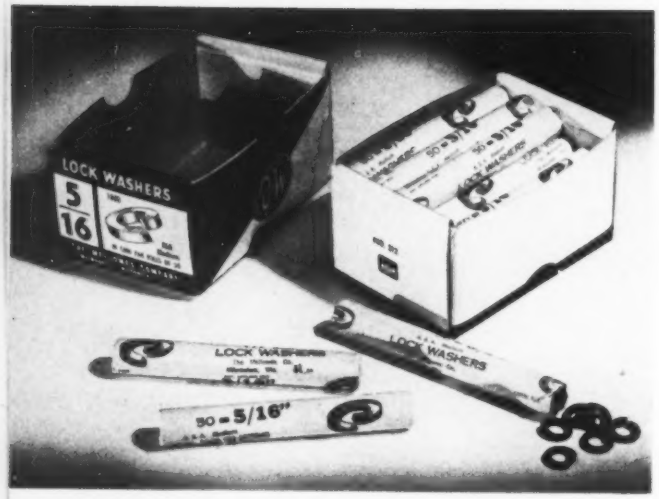


Inside machine, printed web of film from roll at left is heat softened and drawn into cavities around drum. The bottom unprinted flat web of film is fed from conveyor at right



Finished packages emerge from chute under roll of pre-printed polymer-coated polyester-polyethylene film, fed into top of machine prior to forming over meat stacks.


another
prestige
product
packaged
by BURT
Revlon
intimate



Packed like coins in a bank-teller's paper tube, pre-counted lock washers save handling time for distributors and for small users. The small cartons hold 20 tubes of 50 small-sized washers in a 1,000-unit package.

Washers by count

With coin packs and multi-unit cartons, Mellowes proves that functional convenience can be important to distributors and users of a standard industrial product

Illustrated end labels make each carton a counter display for Mellowes' tube-packaged washers and permit quick shelf identification. Large cartons hold 500 or 1,000 large-sized washers in tubes or three small cartons of 1,000 small-sized washers each.

Could packaging improve the usefulness and convenience of a standardized industrial product such as helical spring lock washers?

The Mellowes Co., Milwaukee, set out several years ago to investigate this possibility for promoting its sole product. Out of this project came two packaging ideas that may prove as useful for other small, bulk-packed industrial products as they have been for lock washers.

The answer to Mellowes' question was obtained through interviews with industrial distributors who sell lock washers to industry in small and medium quantities and through visits to manufacturing plants using from a few hundred to hundreds of thousands of lock washers per day. Formerly, these were all bulk packaged in cartons or heavy wooden kegs.

Industrial distributors and small users were interested in a system of packaging which would make lock washers easier to stock, handle and inventory, and easier to distribute on the job. There was a strong demand for ready identification of the package contents, for packaging that would eliminate costly counting or weighing of small quantities.

Coin Pak

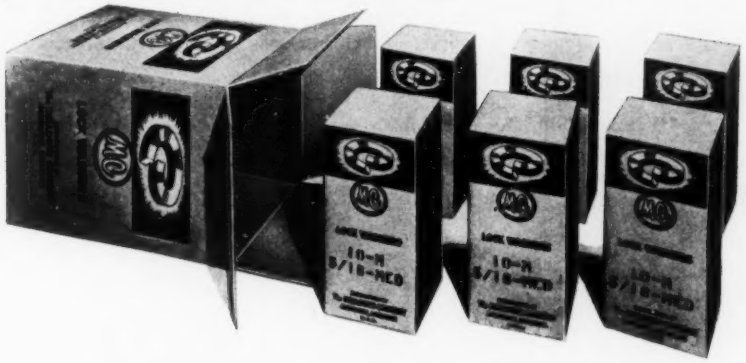
One idea for such a package was spawned in a Milwaukee bank where tellers were packaging coins in paper wrappers. Could lock washers be packaged that way? The problem was to develop a machine that would package lock washers in paper tubes economically. Because lock washers aren't flat like coins, but are helical or spiral in shape, and because they are slotted, the slots had to be lined up so that the washers could be inserted in the tubes smoothly and compactly. A machine that proved economically successful was constructed to line up the lock washers accurately, insert them in the tubes in the exact count required and roll the ends of the tubes to hold the washers in place. The machine was Mellowes' own development. Tube ends remain open so that one can look through the center of the washers. White tubes are used for plated washers and yellow tubes for plain steel.

Nine popular sizes of Mellowes lock washers from $^3/_{16}$ to $^3/_4$ in. are put up in the new package, dubbed "Coin Pak." The six smaller sizes are packed 50 to the tube and the three larger sizes, 25 to the tube. Unit packaging is developed further by loading 20 of the 50-washer tubes into a small folded paperboard carton holding 1,000 washers. Three of these fit into a larger carton of similar design to make a 3,000-washer package.

Large and small cartons consist of telescoping base and cover trays designed for easy access and handling. Yellow, black and white printing provides color continuity from tube to outer carton, and makes company and product data highly legible. End labels give the count and size of contents and show a large illustration of a lock washer for quick identification on distributors' or users' shelves.

Many distributors and users stack the heavily loaded cartons bottom-side up so the inside tray will not drop out when the carton is picked up by a

Keg-load of washers bulk packed in six corrugated unit-load cartons and a lined shipping carton weighs less, and stacks and palletizes better than the traditional 12-in. wooden keg.



stock clerk or workman. End labels are therefore printed in opposite directions so they can be arranged for readability whether the cartons are stacked top or bottom-side up.

Because Coin Pak is such a compact method of packaging lock washers, it conserves valuable shelf space for both the user and the distributor. It eliminates counting and weighing as well as the labor and expense of packaging small quantities. It makes lock washers easier to stock, easier to handle, easier to sell, easier to identify and greatly simplifies inventory. Packaging lock washers in Coin Pak by machine helps to safeguard quality by eliminating "linkers," off sizes and foreign matter.

For the industrial distributor, the Coin Pak telescope carton also serves as an attractive counter display. The bottom half of the carton can be nested in the top half, either flat or at an angle, and placed on or near the distributor's sales counter.

Job-Pak

To meet the demand for a modern, functional bulk package to replace the old wooden keg, Mellowes devised another new system known as Job-Pak. One keg-load of lock washers is now packaged in a corrugated shipping case enclosing six inner cartons which divide the contents into six equal portions. Each of these inner cartons as well as the outer shipping case is illustrated with the M-C trademark, a large picture of a lock washer and the quantity and size of the contents.

The original keg-size Job-Pak container proved so convenient to users of lock washers that a demand developed for lock washers packed in ⅔- and ⅓-keg quantities as well. To meet this need, Mellowes has made its lock washers available in outer containers which hold four or two of the standard ⅙-keg inner cartons. The ⅙-keg inner carton may be ordered separately. The company also packages a few of the very small sizes of lock washers in so-called splits, one-half the size of the standard ⅙-keg carton.

Advantages of the Job-Pak package to distributors and users are said to include:

1. Reduced handling costs (each inner carton of lock washers [⅙ keg] weighs about 33 lbs.);
2. More efficient use of stockroom floor and shelf space;
3. Elimination of counting, weighing and most other manual handling of lock washers, together with problems of error, spilling and mixing of sizes;
4. Speeding up of physical inventory and stock distribution;
5. Re-usability of containers.

While more than 60% of Mellowes lock washers are now packaged in either Coin Pak or Job-Pak, they are also available in so-called standard packages and in modern bulk containers. Standard shelf packages which contain 100, 500 or 1,000 loose lock washers closely resemble the Coin Pak carton in design and color. Bulk quantities are packaged in corrugated cartons similar in appearance to the outer Job-Pak carton unless wooden kegs have been requested. The cartons are easier to handle, palletize, stack in the stockroom and transport by standard fork-lift trucks.

Lock washers are small but important components of many modern devices and they are manufactured to the same rigid standards throughout the country. Mellowes considers the new functional packages, designed to save distributors and customers time and labor in handling and use, an important factor in maintaining the nation-wide market for its sole product.

Poured from carton into machine hopper, 1/6 keg-load of washers can be handled much faster and easier than former method of hand feeding with a scoop from a large, heavy container.

Supplies and services: *Paper tubes by The Cleveland Container Co., 6201 Barberton Ave., Cleveland 2, Ohio. Coin Pak cartons by F. J. Schmidt Co., 131 W. Seeboth St., Milwaukee 4, Wis., and Genske Container, Inc., 3848 N. Port Washington Rd., Milwaukee 12. Corrugated cartons by Downing Box Co., 3832 N. Third St., Milwaukee, and Kieckhefer-Eddy Div., Weyerhaeuser Timber Co., 919 N. Michigan Ave., Chicago 11.*

How 3 types of packaging use BAKELITE Brand Plastics to

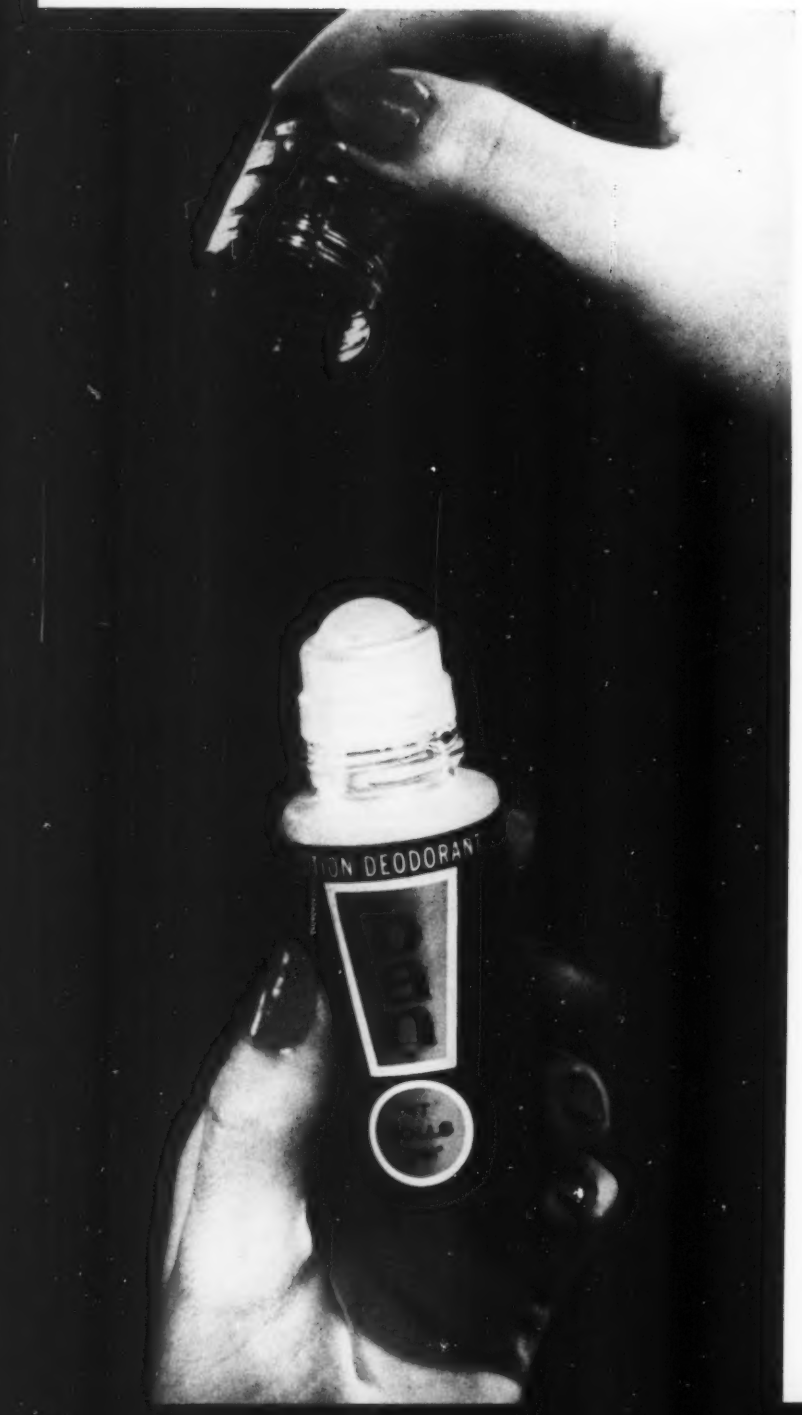
Improve package design

1. Dramatic realism—even the squeeze. They look and feel like real lemons and limes, yet no lemon or lime ever squeezed so easily. This realism is typical of the design versatility and sales impact possible in packages molded from BAKELITE Brand Polyethylene. The colors are molded in and won't wear off. The appearance and flexibility are unaffected by the juices. One package holds the juice of several lemons or limes and the light weight saves on shipping. Molded by Plax Corporation.

Why don't you profit from this example? See how creative packaging with BAKELITE Polyethylene leads to successful selling for liquids and solids in consumer and industrial markets.

Improve package design

(continued from preceding page)



2. *Top for a top-seller*

The functional efficiency of the roll-on ball applicator helps make Bristol-Myers' "Ban" deodorant a best seller. Three different plastics work together to make it a package success—styrene for the roll-on ball . . . polyethylene for the leak-proof collar . . . and BAKELITE Brand C-11 Plastic for the transparent, glossy, threaded cap. C-11 Plastic is an acrylonitrile-styrene compound with excellent chemical resistance and remarkable toughness, so the cap makes a tight fit but won't stick, crack, or discolor. BAKELITE Brand C-11 is a proven material that combines strength, protection, and eye-appeal for a truly functional design. Investigate it for the decorative and practical advantages it can bring to your package.

Polyethylene coated "Sealkan" is a new product of Sealright Co., Inc.

3. Disposable container with polyethylene coating saves money, space, handling time

Frozen eggs were originally packaged in metal cans and required 8 to 24 hours of thawing before they could be used. Now, a disposable fibre container with a protective polyethylene coating makes pre-thawing unnecessary. The eggs are frozen right in the polyethylene coated container. There is no danger of having paper fibres embedded in the product. When ready for use, the container is slit and peeled from the frozen eggs in seconds. Repeated savings from this improved packaging design are substantial and customer acceptance is overwhelming. It brought a welcome end to the storage, disposability and return problems of the earlier package. Improving package efficiency is a sure way to fight the profit squeeze. Find out how protective coatings of Bakelite Brand Polyethylene can improve your package design for liquids and solids in bulk and small unit quantities.

Ask your packaging supplier about

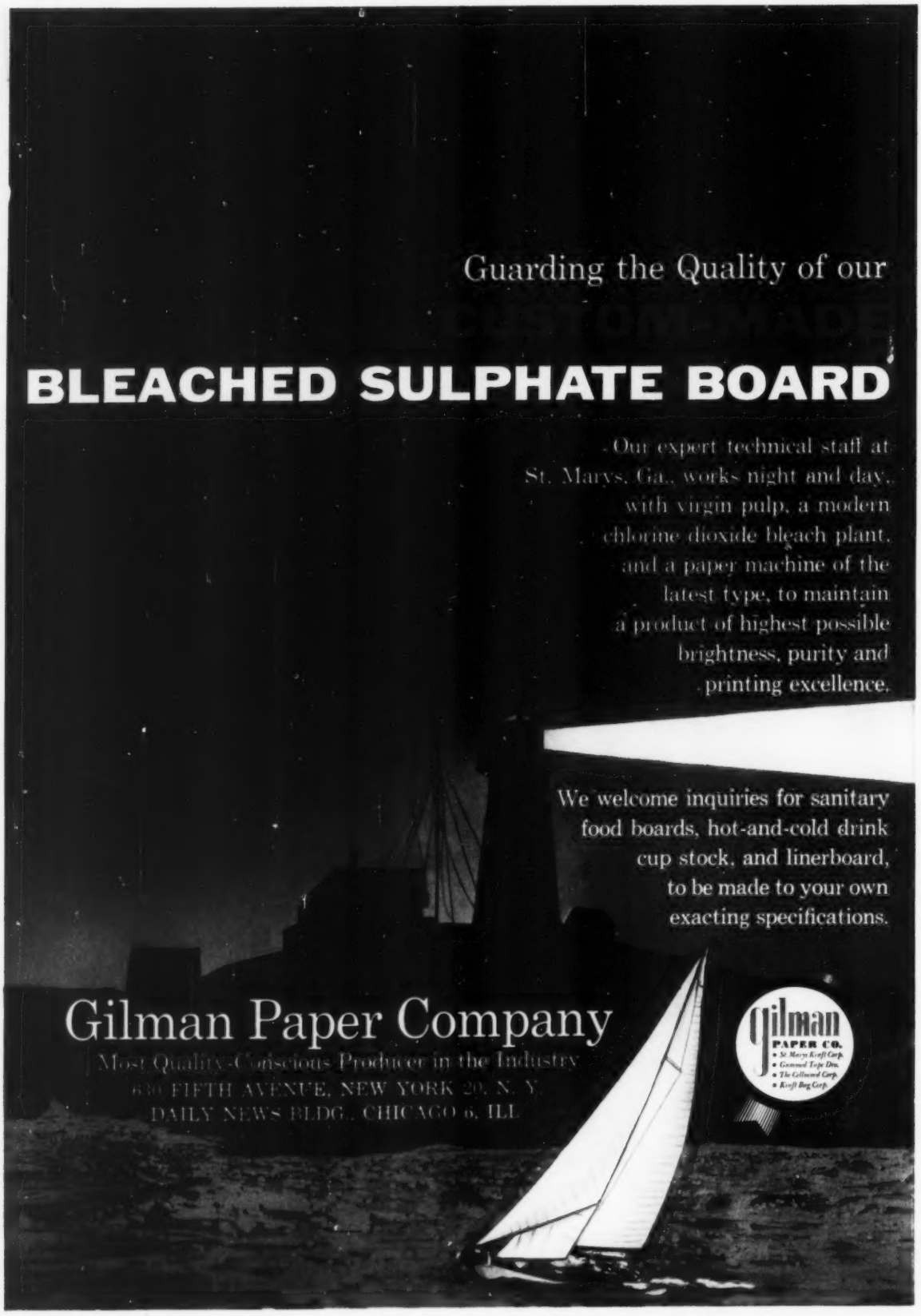
BAKELITE
BRAND
PLASTICS

UNION CARBIDE

Write to Bakelite Company for the names of suppliers who offer their clients distinguished service in plastic packaging.

BAKELITE COMPANY, *Division of Union Carbide Corporation,* 30 East 42nd Street, New York 17, N. Y.

The terms BAKELITE and UNION CARBIDE are registered trade-marks of UCC.


Guarding the Quality of our
BLEACHED SULPHATE BOARD
Our expert technical staff at St. Marys, Ga., works night and day, with virgin pulp, a modern chlorine dioxide bleach plant, and a paper machine of the latest type, to maintain a product of highest possible brightness, purity and printing excellence.
We welcome inquiries for sanitary food boards, hot-and-cold drink cup stock, and linerboard, to be made to your own exacting specifications.
Gilman Paper Company
Most Quality-Conscious Producer in the Industry
630 FIFTH AVENUE, NEW YORK 20, N. Y.
DAILY NEWS BLDG., CHICAGO 6, ILL.
Gilman
PAPER CO.
• St. Marys Kraft Corp.
• Gummed Tape Div.
• The Gilmanized Corp.
• Kraft Bag Corp.

Brilliant moth crystals

Flexographic-printed foil labels
on fibre cans
give jewel-like color appeal
in self-service display
at a 10% saving in container costs

Pleasing appearance is believed to be more expressive of quality products used for protecting fine woolens. Market tests showed light-colored packages pulled 98% better than dark-colored ones. Metallic green distinguishes Expello packages; metallic scarlet, the Bug-A-Boo packages.

By switching to a fibre can with a flexographic-printed foil label, the Judson Dunway Corp., Dover, N.H., reports, it has effected a more than 10% saving in container costs and has greatly enhanced the merchandising appearance of the packages for its Bug-A-Boo and Expello moth crystals.

The change was possible, the company says, because of the satisfactory protective features of a modern metal-end fibre can to prevent product evaporation. And the 10% saving was realized, without loss of eye appeal, by the lower cost of foil-wrapped fibre cans in comparison with lithographed metal cans. Lighter weight of the fibre containers also represents savings in shipping costs.

Brilliant highlights and jewel-like colors used on the foil, the company feels, imparts a more feminine appearance to the packages that are now more expressive of quality products for protecting fine woolens from moths and other insects.

An added convenience feature is the rip-string opening, which the user merely has to pull to open the can of crystals. The reclosable cover retards evaporation if part of the contents is to be saved for future use.

Both packages are designed with white backgrounds, in line with market tests showing that light-colored packages pulled 98% better than those designed with dark colors. The designating color of the Expello foil labels is metallic green with black. The Bug-A-Boo labels are printed with metallic scarlet lettering against a clean, opaque white.

The principal design change is an arrangement to take advantage of the foil's brilliance. Basic elements are retained to maintain product identity.

Both products are packed automatically. The small Expello Crystals go directed by gravity to the filling machines. The large Expello Crystals are processed through a tablet machine and then gravity fed to the filling machine. Bottoms are applied by an automatic seamer.

The new packages, distributed nationally in food, drug, department and hardware stores, are being featured extensively in the company's advertising.

Said a company spokesman: "We feel strongly that these more appealing and attention-getting packages cannot help but increase consumer purchases of our products through self-service outlets."

Supplies and services: *Foil labels designed and produced by Milprint, Inc., 4200 N. Holton St., Milwaukee 1, Wis. Fibre cans by Sefton Fibre Can Co., 3275 Big Bend Blvd., St. Louis 17, Mo. Filling machine by Weigh Right Automatic Scale Co., P. O. Box 896, Joliet, Ill. Seamers by Sefton Fibre Can Co.*

Rip-string opening provides consumer convenience. Reclosable cover retards evaporation if part of contents is to be saved by consumer for future use.

For 16 years an important link in TRI-SURE THE WORLD OVER

Tri-Sure Plant at St. Catharines, Ontario, Canada

Tri-Sure Canadian Plant gives you products that are leaders in *precision, performance, protection*

Established in 1941, Tri-Sure's Canadian plant—the third plant in Tri-Sure's world-wide chain—has been manufacturing an important and expanding line of products for Canadian industry.

This modern plant at St. Catharines, Ont. is ideally situated for fast and reliable supply of Tri-Sure Seals, Plugs and Flanges for Drums . . . Tri-Sure Nozzles, Inner Seals and Screws Caps for Light Containers . . . Tri-Sure Drum Closing Rings . . . Tri-Sure Conduit Bushings . . . and an extensive line of precision automotive parts.

For 16 years an integral part of "*Tri-Sure The World Over*," the St. Catharines plant joins Tri-Sure plants in the United States, Brazil, Australia and Mexico—as well as affiliates in England and Holland—in serving customers with a continuing program of product improvement.

Let Tri-Sure provide *your* plant with the *products*, the *quality*, the *service* you need. Write for details or consult our engineers.

**The "Tri-Sure" Trademark is a mark of reliability backed by over 35 years serving industry.*

Always specify **Tri-Sure**

CLOSURES

AMERICAN FLANGE & MANUFACTURING CO., INC.
30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.
CHICAGO, ILL. · LINDEN, N. J. · NILES, OHIO

Tri-Sure Products Limited, St. Catharines, Ontario, Canada
Tri-Sure S/A Industria e Comercio, Sao Paulo, Brazil
American Flange & Manufacturing Co. Inc., Villawood, N. S. W., Australia
Companía Mexicana Tri-Sure S/A, Avenida No. 1 y Calle Piramide, S. Bartolo Naucalpan, E. de Mexico, Mexico
B. Van Leer N. V., Stadhouderskade 6, Amsterdam, Holland
Van Leer Industries, Ltd., Seymour House, 17 Waterloo Place, Pall Mall S. W. 1, London, England

Methods
Engineering
Testing

Performance of a new polyethylene

Studies of permeability and chemical resistance of a low-pressure resin, now commercially available, throw new light on its potentialities in packaging

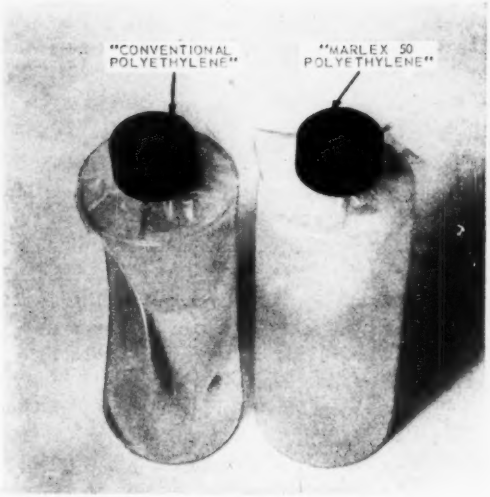


Figure 1. Comparing the appearance of a bottle molded of conventional polyethylene with one molded of low-pressure polyethylene (Marlex 50), after storage for two weeks at 80 deg. F., both bottles containing carbon tetrachloride.

*By R. J. Martinovich and Paul J. Boeke**

In the last several years a number of papers have appeared in the literature concerning the permeability and chemical resistance of conventional polyethylene to various liquids and gases (1-6).[1] With the development of the new linear polyethylene resins produced by activated catalyst systems at low pressures, there has been an increased amount of interest and speculation as to the potential of this type of polymer in packaging and related fields.

The general physical properties of the rigid polyethylene produced by the Phillips Polyolefin Process under the trade name of Marlex[2] 50 polyethylene have been adequately described elsewhere (7). In addition to these data, some permeability and chemical resistance results for this polymer were described in a recent MODERN PACKAGING article (8). It was evident that further technical studies would be necessary to assess better the potentiality of such a material in the packaging field, especially since the polymer is now available commercially.

Such a technical study would of necessity take two very important factors into consideration. The first factor is the permeability rate of various liquids and gases through the material in question under given container geometry and environmental conditions. The second is the effect of the liquid on the strength properties of the plastic material. Information of this kind is essential when dealing with oxidizing agents, oils and aromatic materials, as they may influence environmental

*Both authors are with the Phillips Chemical Co., Sales Service Laboratory, Bartlesville, Okla.

[1]Numbers in parentheses identify references appended.

[2]A trademark of Phillips Petroleum Co.

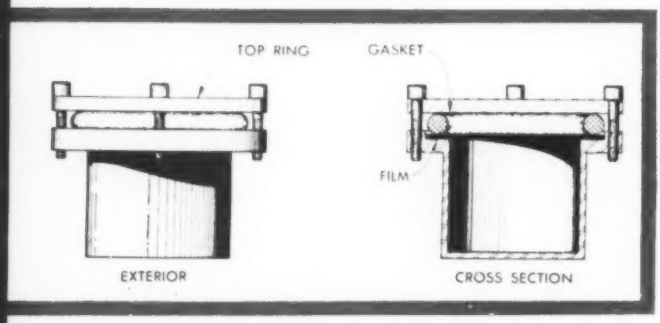


Figure 2. Schematic diagram of Thwing-Albert vapor-meter cup incorporating the modifications made for use in these tests. Rubber gasket is replaced with rubber O-ring and conventional screws by socket-head cap screws, for securing a tighter seal.

stress cracking, or exert unusual solvency on the polymer. Contact with such material will generally result in a degradation of strength properties of the polymer, with a corresponding loss of plastic container performance.

This paper, therefore, is concerned primarily with a detailed investigation of the permeability of various chemicals in Marlex 50 polyethylene containers and the chemical resistance of Marlex 50 plastic to these materials. In addition, the effects of polymer crystallinity and temperature on the permeability of some selected liquids through polyethylene of varying densities are discussed. If not specifically named, it should be understood that the low-pressure polyethylene referred to throughout the article is Marlex 50.

General

The permeability of gases and vapors through a plastic membrane is generally considered to be an activated diffusion process in which the gas or vapor first dissolves in the membrane, then diffuses to a position of lower concentration and subsequently evaporates from the opposite surface of the film. At constant temperature the amount of vapor passing through a plastic film per unit area and time is given by Fick's first law of diffusion,

$$q = \frac{D\,\partial C}{\partial X} \qquad (1)$$

(∂ indicates partial differential)

where D is the diffusion constant and $\partial C/\partial X$ is the concentration gradient across the film. Assuming Henry's law to hold, Equation (1) can be rewritten as

$$q = \frac{DS(p_1 - p_2)}{d} \qquad (2)$$

where q and D are the same quantities as defined above, S is the solubility constant, d is the thickness of the film and p_1 and p_2 are pressures of the gas on both sides of the film. By definition, the permeability constant is normally given by the relation

$$P = \frac{qd}{p_1 - p_2} \qquad (3)$$

However, for convenience, the data as presented in this paper are expressed in terms of a normalized permeability rate defined as

$$P_r = qd \qquad (4)$$

where q is the number of grams of vapor or gas passing through a film per unit area and time and d is the thickness of the film in mils.

Permeability

Procedure. In the vapor-transmission-rate studies, an aluminum Thwing-Albert vapor-meter cup was used. Early in the work it was noted that considerable difficulty was encountered in obtaining consistent vapor-tight seals with this cup. A modification was made in which the rubber gasket was replaced by a rubber O-ring and the conventional screws by socket-head cap screws. With these modifications a more uniform seal between the liquid and the atmosphere was obtained. This modified cup is shown schematically in Figure 2.

The film was selected for its uniformity and absence of visible foreign materials and pinholes. Specimens were die cut from the film and their thicknesses determined by weighing and calculating the volumes and surface areas.

Table 1: Vapor and liquid permeability of Marlex 50 at 80 deg. F.*

Chemical used	*Vapor permeability*	*Liquid permeability*
Amyl alcohol	0.353	0.268
Ethylene glycol	0.669	0.873
Acetic acid	0.940	0.993
Aniline	1.09	1.27
Ethyl alcohol	1.26	1.77
Oil of peppermint	1.36	1.75
Butyric acid	1.54	3.61
Benzaldehyde	2.45	3.92
Methyl salicylate	3.39	3.92
Methyl ethyl ketone	4.12	8.05
Amyl acetate	5.54	6.75
Diethyl ketone	7.67	7.67
Ethyl valerate	8.11	9.69
Butyraldehyde	9.86	12.58
Ethyl acetate	13.7	13.7
N butyl ether	19.3	34.3
Butyl iodide	52.04	112.72
Heptane	54.0	69.7
Butyl chloride	69.63	86.05
Butyl bromide	76.15	113.19

*These values are expressed in gms./24 hrs./100 in.^{2}/mil thickness.

Table II: Vapor permeability values for Marlex 50 and conventional polyethylene by the cup method at 80 deg. F.*

Test liquid	*Marlex 50*	*Conventional polyethylene*	*Ratio Marlex 50/ conventional PE*
Aniline	1.09	3.96	0.28
Oil of peppermint	1.36	3.68	0.37
Benzaldehyde	2.49	9.67	0.26
Ethyl acetate	13.7	18.2	0.17
Benzene	102.9	729.1	0.13
Carbon tetrachloride	120	580	0.21

*These values are expressed in gms./24 hrs./100 in.²/mil thickness.

The quantity of liquid used in the cup was regulated so that the weight of the cup and liquid did not exceed 200 gms., which was the maximum capacity of the Sartorius automatic analytical balance used in this work. After the film was secured in place, the cup was placed upright in a constant-temperature oven fitted with a turbo blower and adjustable shutter. The cups were weighed periodically until a constant rate of loss was obtained. Loss of weight was then plotted against time and the average rate of loss was obtained from the slope of the curve. The resulting normalized permeability rates were then calculated in terms of gms./24 hrs./100 in.²/mil thickness of film.

The same method as above was used for obtaining liquid-permeability data, except that the cup was inverted so that the liquid was in contact with the film.

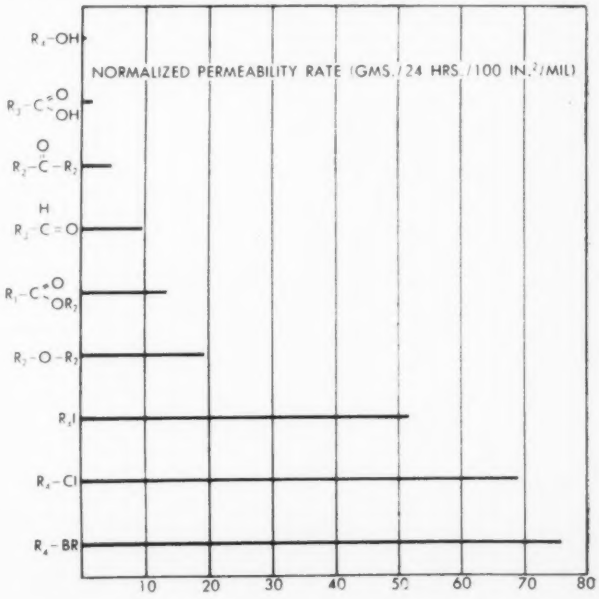
Results. Table I summarizes the vapor and liquid permeabilities of various solvents through the ethylene polymer under study. It was anticipated that such data might be used to approximate permeability losses under actual storage conditions of various fluids in any plastic container. Only the capacity, surface area and thickness of the container would have been required to predict shelf life under specific conditions. However, preliminary measurements indicated that the shelf-life calculations for bottles based on permeability values derived from film showed higher losses than were actually obtained in subsequent bottle tests. This discrepancy can no doubt be accounted for by the presence of irregularities in the film which could ultimately manifest itself by increased permeability rates.

It may be observed from Table I that in almost all cases the liquid-permeability rate exceeds the vapor-permeability rate. As will be shown later, this fact will have an important bearing on the validity of extrapolating bottle shelf-life test data of several months duration to a yearly basis.

The effect of different functional groups of permeating molecules on the permeability through films is illustrated in Figure 3. As is evident from this graph, the alcohols are the slowest permeators followed in order of increasing permeation by acids, ketones, aldehydes, esters, ethers, saturated and halogenated hydrocarbons. These results are generally consistent with the order obtained for the lower crystallinity polyethylenes by Bent and Pinsky (9).

Since the order of permeation for compounds containing different functional groups was similar for this polyethylene and for conventional polyethylene, the comparative permeability data of these two polymers was analyzed in order to determine if their permeability ratio was a constant for all liquids. A knowledge of this constant would enable one to predict the permeability of a given liquid through the new resin by knowing its transmission characteristics through conventional polyethylene. As is evident from Table II, the ratio is not constant and in fact decreases with an increase in the permeability rates of liquids. This would indicate that the transmission rates of non-polar compounds are much more affected by the increased crystallinity of the new-type polyethylene than are polar compounds. This is so because of the rather limited initial solubility of polar compounds in non-polar barriers. Consequently, the difference

Figure 3. Effect of different functional groups of permeating molecules on permeability through Marlex 50 film. (R indicates alkyl group; subscript refers to the number of carbon atoms.)



between conventional polyethylene and the new linear polymer would be expected to be much greater for fast and moderate permeators than for extremely slow permeators.

Effect of crystallinity on permeability. Blown conventional film of low and intermediate densities as well as standard and annealed high-density Marlex 50 polymer film was used to illustrate the effect of crystallinity of polyethylene on permeability rates.

In Figure 4 is plotted the normalized permeability rate of benzene through polyethylene films of different densities. It is evident from this curve that the permeability rate decreases with increase in the crystallinity of the polyethylene film. This is in accord with the findings of Amerogen, who had previously shown that the solubility and diffusion constants increase with increased crystallinity of the polymer (10, 11). Consequently one should expect that a more-crystalline polymer, by virtue of its lower solubility and diffusion constants, would have a smaller permeability rate when contrasted to less-crystalline polymers.

Further examination indicates that the permeability rate asymptotically approaches a limiting value and that additional increase in density beyond 0.96 does not appreciably decrease the permeability rate. If we assume that diffusion occurs primarily in the amorphous region, we can readily understand this seemingly anomalous behavior. This is shown more clearly in Figure 5, where the amorphous/crystalline area ratio of polyethylene is plotted against the reciprocal of the normalized permeability rate of carbon tetrachloride. It is apparent from this curve that an increase in crystallinity beyond that of highly crystalline materials, such as Marlex 50 polymer, does not result in a significant change in the amorphous/crystalline area ratio as with polymers exhibiting low and intermediate densities. Consequently nearly maximum permeability resistance can be obtained with an amorphous-to-crystalline area ratio corresponding to that of Marlex 50 polyethylene. Moreover, it is evident from the above discussion that not all low-pressure polyethylenes possess the same permeability rate because of differences in crystallinity.

The effect of temperature on the crystallinity of polyethylene can be seen from Figure 6, in which a curve of temperature versus crystallinity is plotted for conventional high-pressure polyethylene and the low-pressure Marlex 50 resin. This curve was constructed using data obtained from nuclear resonance measurements as determined by the Research Division of Phillips Petroleum Co. It may be observed that an increase in temperature from 20 to 60 deg. C. results in a 4% decrease in total crystallinity for the low-pressure polymer, whereas for the same temperature range there is a 33% decrease of crystallinity in conventional poly-

Figure 4. Normalized permeability rate of benzene through polyethylenes of different densities.

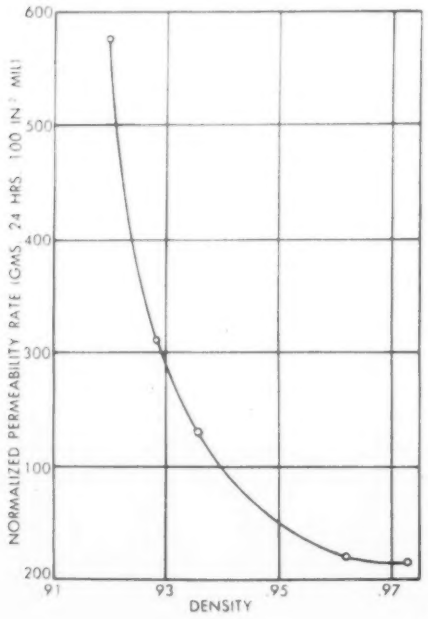


Table III: Weight loss of materials in 4 oz.* Marlex 50 and conventional polyethylene bottles expressed as weight per cent loss per year† at 80 deg. F.

Test material	*Marlex 50*	*DYNH*
1 Ethylene glycol	+0.013	+0.075
2 Benzene	142.5	955
3 Carbon tetrachloride	80.3	795
4 Sulphuric acid (98%)	0.038	0.17
5 Pentane	299	1505
6 Chlorox	0.33	1.22
7 Methyl salicylate	2.2	14.73
8 Benzaldehyde	1.21	13.7
9 Ammonium hydroxide (28%)	1.57	4.5
10 Acetone	3.37	37.7
11 Acetic acid (glacial)	0.87	6.3
12 Nitric acid (70%)	+0.047	0.55
13 Acetophenone	1.1	9.34
14 Oil of peppermint	1.23	11.81
15 Diethyl ether	140.3	862
16 Ethyl alcohol	0.24	6.6
17 Aniline	0.57	4.2
18 Ethyl acetate	8.7	55.9
19 Amyl acetate	4.2	26.5
20 Superoxol	1.24	1.05
21 Turpentine	8.45	75.9
22 Hydrofluoric acid	0.28	0.82
23 Motor oil, SAE 10	0.025	0.18
24 Water	0.11	0.40

*The thickness of these bottles was approximately 0.047 in.
†Estimation based on data obtained after four months.

Table IV: Ultimate tensile strength and elongation of Marlex 50 after three months

Chemical	Tensile strength	% change	Elongation	% change	Tensile strength	% change	Elongation	% change	Tensile strength	% change	Elongation	% change
	80 deg. F.				*120 deg. F.*				*150 deg. F.*			
1 Battery acid (36%)	4480	— 2.6	22	— 4.3	4363	— 5.15	27	+ 17.4	4667	+ 1.5	31	+ 34.8
2 Nitric acid (70%)	4670	+ 1.5	20	— 13.0		Discontinued				Discontinued		
3 Hydrofluoric acid (52-55%)	4457	— 3.1	26	+ 13.0	4503	— 2.1	28	+ 21.7		Discontinued		
4 Phosphoric acid (85%)	4583	— 0.37	23	+ 0.00	4493	— 2.3	30	+ 30.4	4680	— 1.7	29	+ 26.1
5 Chromic acid (25%)	4607	+ 0.15	23	+ 0.00	4500	— 2.2	28	+ 21.7	4330	— 5.9	31	+ 34.8
6 Hydrochloric acid (37%)	4620	— 0.43	22	— 4.3	4367	— 5.1	20	— 13.0	4590	— 0.20	30	+ 30.4
7 Glacial acetic acid	4580	— 0.43	26	+ 13.0	4443	— 3.4	32	+ 39.1	4553	— 1.0	33	+ 43.5
8 NaOH (50%)	4587	— 0.28	24	+ 4.3	4317	— 0.62	24	+ 4.3	4647	— 1.0	33	+ 43.5
9 Nitrobenzene	4423	— 3.85	30	+ 30.4	4067	—11.6	41	+ 78.3	4410	— 4.1	40	+ 73.9
10 Phenol	4593	— 0.15	24	+ 4.3	4540	— 1.3	28	+ 21.7	4727	+ 2.8	29	+ 26.1
11 10 wt. motor oil	4437	— 3.5	28	+ 21.7	3770	— 8.0	49	+113.0	4135	—10.1	53	+130.4
12 Hydrogen peroxide (30%)	4443	— 3.4	25	+ 8.7	4413	— 4.1	26	+ 13.0	4715	+ 0.50	32	+ 39.1
13 Clorox	4553	— 1.0	25	+ 8.7	4517	— 1.8	25	+ 8.7	4577	— 0.50	37	+ 60.9
14 Methyl salicylate	4263	— 7.3	32	+ 39.1	4047	—12.0	42	+ 82.6	4107	—10.7	47	+104.3
15 Ethylene glycol	4517	— 1.8	21	— 4.3	4447	— 3.3	27	+ 17.4	4710	— 2.4	30	+ 30.4
16 Tetralin	4017	—12.7	42	+ 82.6	3587	—22.0	53	+130.4	3620	— 21	48	+108.7
17 Benzaldehyde	4277	— 7.0	27	+ 17.4	4130	—10.2	37	+ 61.0	4283	— 6.9	38	+ 65.2
18 Acetophenone	4200	— 8.7	33	+ 43.5	4107	—10.7	37	+ 61.0	4253	— 7.5	37	+ 60.9
19 Chlorobenzene	4283	— 6.9	31	+ 34.8	3977	—13.5	43	+ 87.0	4153	— 9.7	40	+ 73.9
20 Butyl carbitol	4390	— 4.6	27	+ 17.4	4423	— 3.8	29	+ 26.1	4310	— 6.3	73	+217.4
21 Toluene	4057	—11.8	36	+ 56.5	3953	—11.9	43	+ 87.0	4107	—10.7	43	+ 87.0
22 Mineral oil	4510	— 2.0	29	+ 26.0	4197	— 8.8	45	+ 95.7	4043	—12.1	55	+139.1
23 Aniline	4520	— 1.7	24	+ 4.3	4303	— 6.5	30	+ 30.4	4527	— 1.6	37	+ 60.9
24 Xylene	3980	—13.3	49	+113.0	3900	—15.2	44	+ 91.3	4043	—12.1	44	+ 91.3
25 Diethylene triamine	4440	— 3.5	22	— 4.3	4413	— 4.1	32	+ 39.1	4610	— 2.1	31	+ 34.6
26 5% soap solution	4463	— 3.0	30	+ 30.4	4623	+ 0.50	23	+ 0.00	4740	+ 3.0	30	+ 30.4
27 Water	4530	— 1.5	25	+ 8.7	4567	— 0.70	28	+ 21.7	4617	+ 0.40	32	+ 39.1
28 Air	4587	— 0.28	23	+ 0.00	4427	— 3.8	25	+ 8.7	4707	— 2.3	27	+ 17.4
29 Ethyl alcohol	4580	— 0.43	27	+ 17.4								
30 Amyl acetate	4113	—10.6	47	+104.3								
31 Diethyl ether	4197	— 8.8	49	+113.0								
32 Turpentine	3973	—13.6	58	+152.2								
33 Tetrachloroethane	4107	—10.7	40	+ 74.0								
34 N-Heptane	4103	—10.8	45	+ 95.7								
35 Cyclohexane	3940	—14.3	45	+ 95.7								
36 Ethyl acetate	4260	— 7.4	45	+ 95.7								
37 Carbon tetrachloride	4073	—11.5	34	+ 47.8								
38 Benzene	4300	— 6.5	24	+ 4.3								
39 Bromine water	4527	— 1.6	24	+ 4.3								
40 NH_4OH (28%)	4640	+ 0.87	23	+ 0.00								

ethylene. This of course is to be expected considering the lower melting point of conventional polyethylene in comparison with the low-pressure resin. Since the dependence of permeability on temperature is controlled by the diffusion and solubility constants and since, as we mentioned previously, the diffusion and solubility constants are dependent to a large extent on the crystallinity of the polymer, one would expect that the ratio of permeabilities of this low-pressure polymer to conventional polyethylene would be much smaller at elevated temperatures than at room temperature.

Shelf-life studies

An investigation was made to determine the actual shelf life of various chemicals stored in Marlex 50 plastic bottles. Conventional and Marlex 50 polyethylene 4 oz. commercial bottles were

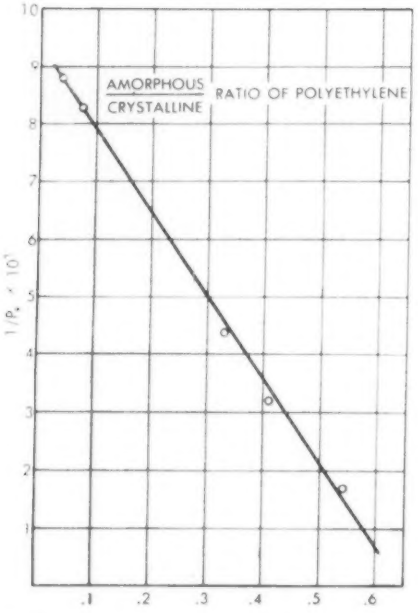


Figure 5. Reciprocal of normalized permeability rate vs. amorphous/crystalline ratio of polyethylene.

filled with liquids, capped and stored at 80 deg. F. A liner of polyethylene film was inserted between the bottle and screw cap to minimize leakage around the cap. These bottles were weighed periodically and the average rate loss of the contents per week was established. The average loss per year was obtained by multiplying the average weekly value by 52 and expressing this change as a per cent of the original weight of the liquid. Table III summarizes the results of this comparative study conducted for four months at 80 deg. F.

For the most part, these experimentally derived data should compare favorably with actual container performance values obtained after a year. In some cases, however, the experimental results will be generally higher. The reason for this will be apparent if we remember that the liquid-permeability rate generally exceeds the vapor-permeability rate. Thus, the permeability rate at any moment in a container is dependent on the liquid/vapor-phase volume and, consequently, the over-all permeability rate will decrease as the liquid/vapor-phase ratio decreases, thereby resulting in slightly lower average losses with time.

Since a 3% loss of contents per year at room temperature is the maximum value acceptable by industry for a liquid to be considered packagable (6), many liquids not considered as packagable in conventional polyethylene can be packaged in plastic bottles made of this new low-pressure resin. Moreover, several of the chemicals that are borderline cases when packaged in the new polyethylene containers could be adequately packaged in larger-sized containers due to the increased volume/sur-

Table V: Solubility of test materials Marlex 50 after three months

Chemical	% change in wt. 80 deg. F.	% change in wt. 120 deg. F.	% change in wt. 150 deg. F.
1 Battery acid (36%)	−0.013	−0.009	−0.033
2 Nitric acid (70%)	+1.09	Discontinued	Discontinued
3 Hydrofluoric acid (52-55%)	+0.006	Discontinued	Discontinued
4 Phosphoric acid (85%)	0.000	0.000	−0.063
5 Chromic acid (25%)	−0.055	−0.066	−0.510
6 Hydrocloric acid (37%)	+0.037	+0.066	−0.027
7 Glacial acetic acid	+0.810	+0.730	+0.390
8 NaOH (50%)	+0.071	+0.087	−0.024
9 Nitrobenzene	+2.25	+2.94	+3.47
10 Phenol	+0.270	+0.410	+0.540
11 10 wt. motor oil	+1.87	+6.31	+6.86
12 Hydrogen peroxide (30%)	+0.010	−0.051	−0.032
13 Clorox	+0.010	−0.063	−0.240
14 Methyl salicylate	+3.76	+4.92	+6.63
15 Ethylene glycol	+0.006	−0.057	−0.005
16 Tetralin	+7.08	+7.70	+16.06
17 Benzaldehyde	+2.08	+2.76	+4.60
18 Acetophenone	+2.13	+2.79	+3.80
19 Chlorobenzene	+5.33	+4.91	+8.25
20 Butyl carbitol	+0.530	+1.38	+1.64
21 Toluene	+4.40	+3.86	+5.58
22 Mineral oil	+0.820	+5.70	+5.86
23 Aniline	+0.760	+1.15	+1.45
24 Xylene	+5.29	+5.02	+7.07
25 Diethylene traimine	+0.170	+0.390	+0.230
26 5% soap solution	+0.061	+0.095	+0.037
27 Water	+0.024	+0.022	+0.016
28 Air	−0.025	+0.017	−0.018
29 Ethyl alcohol	+0.260		
30 Amyl acetate	+3.31		
31 Diethyl ether	+3.07		
32 Turpentine	+6.65		
33 Tetrachloro-ethane	+8.59		
34 N-Heptane	+4.99		
35 Cyclohexane	+6.52		
36 Ethyl acetate	+2.23		
37 Carbon tetrachloride	+14.0		
38 Benzene	+5.50		
39 Bromine water	+3.75		
40 NH_4OH (28%)	+0.015		

face-area ratio. In fact, from this standpoint there would be relatively few cases where this new polyethylene could not be utilized as a packaging material.

Another important factor to consider when polyethylene is used as a packaging material is its deformation during shelf aging. Carter and Griffin (12) have studied the effect of typical cosmetic emulsions on conventional polyethylene and reported a number of materials that cause extreme deformation of the container. They attributed this phenomenon to a softening of the bottles, caused by the contained liquid, resulting in increased total capacity. Deformation has also been found to occur in certain cases where oxygen is absorbed readily by the liquid or where the rate of permeation of the contained fluid is much greater than air, which would result in the formation of a partial vacuum with subsequent collapse of the walls of the flexible bottle. The low-pressure polyethylene, because of its increased stiffness and decreased solubility, does not readily undergo such deformation (see Figure 1).

Chemical resistance

In chemical applications, the chemical resistance of a plastic material as measured by its resistance to chemical attack and solvation is of prime importance. As mentioned earlier, the phenomenon of chemical attack, regardless of the cause, usually manifests itself by a decrease in over-all strength properties of the plastic. This is especially important in the case of large containers or carboys, where the weight of the packaged fluid is likely to exert a considerable amount of stress on the container wall.

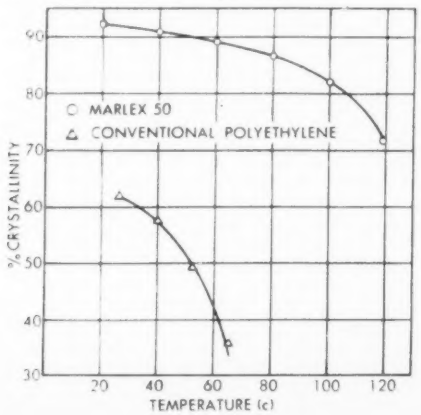
For a realistic evaluation, the chemical resistance of a plastic should be determined under actual service conditions. This would then dictate that the actual fabricated item with its internal and external "applied" stresses be tested in the chemical and physical environments to be employed in subsequent packaging conditions. Unfortunately, it is not possible to anticipate the host of different fabricated items and service conditions which are to be encountered in actual use. Since an excellent and simple means of following the strength properties is possible with tensile-strength and elongation measurements, injection-molded tensile bars with their accompanying "molded-in" stresses were used in our study to provide chemical-resistance data for Marlex 50 polymer. As a supplement to this work, the absorption of the various chemicals investigated, based on the per cent change in weight of the polymer, was also determined.

Tensile properties. Tensile specimens as specified by ASTM-D638-52T were immersed in closed glass jars containing various test environments. The jars were then brought to test temperatures in forced-draft ovens held at 80, 120 and 150 deg. F. After exposures of one and three months, the specimens were removed and tested using an Instron tensile-testing machine with a cross-head speed of 20 in. a minute. This rate was employed because it was felt that a rapid strain would be more likely to emphasize any strength decay due to surface degradation. Three specimens were employed for each test and their average values recorded. The results of this work are summarized in Table IV.

With the exception of hydrofluoric acid, which was discontinued at elevated temperatures because of difficulties encountered in containing the acid, the only chemical which actually attacked this polymer to the point of visible degradation was concentrated nitric acid, and then only at elevated temperatures. Since none of the cases from the above showed visible evidence of degradation, a decrease of 20% in tensile strength was arbitrarily selected as a criterion for chemical attack. Accepting this value, it can be shown that the polymer is not attacked by any of the chemical or physical environments employed in these tests.

From a cursory examination of Table IV, it appears that the tensile strengths of this polyethylene at elevated temperatures are slightly better in many instances than those reported at room temperatures. This phenomenon is probably due to an annealing process which occurs at the elevated temperature, resulting in increased density and crystallinity. In addition, since only a slight difference was found in tensile-strength decay after one month, it is quite possible that the major chemical effects occur in the first month. [*Continued on page 176*]

Figure 6. Crystallinity vs. temperature of conventional and Marlex 50 polyethylene.



By D. G. Lundgren, R. E. Kelly† and A. K. Wiebe†*

New sizing for food papers

A mixture of alkylketene dimers appears to meet the need for a paper and board sizing effective under alkaline conditions; radioactive extraction studies establish its safety

The need for paper sizing agents operable under alkaline conditions has long been recognized. Research has resulted in the development of a group of paper sizes, called Aquapels, the active ingredients of which are long-chain alkylketene dimers derived from fatty acids; these react with hydroxyls on the surface of cellulose fibres, forming cellulose esters of fatty acids. Unusual resistance to alkaline and acid penetrants—particularly lactic acid—is a characteristic of these sizes and suggests their use on grades of paper and board used for packaging milk and other dairy products. The following extraction study was made to establish the acceptability of Aquapels for sizing milk-carton board.

Aquapel-treated paper has a smooth, water-repellent surface that is ideal for food packaging. Commercial Aquapel is almost entirely long chain (C_{16}-C_{18}) alkylketene dimer containing small quantities of ketone (C_{31}-C_{35}) resulting from dimer hydrolysis together with a small amount of the corresponding (C_{16}-C_{18}) organic acid. When applied to paper, most of the dimer reacts chemically with the cellulose and is completely immobilized. The remainder hydrolyzes to the corresponding ketone with a loss of one mole of carbon dioxide per mole of dimer. This sizing and its hydrolysis products have very low solubility in aqueous solvents and the purpose of this work is to show that no significant amount of them (i.e., less than 10 parts per billion) (1)[‡] is extracted from the sized paper by water. The present paper deals with the extraction of Aquapel hydrolysis products from waxed milk cartons.

Figure 1. Repellency of Aquapel-treated paper.

Experimental methods

Radioactive Aquapel was prepared by standard techniques from fatty acids containing stearic acid labeled with carbon-14.

The Aquapel was then hydrolyzed to a product containing 10% organic acid and 90% ketone. This product is chemically identical with the Aquapel residue remaining on Aquapel-sized paper, excluding the immobile, unextractable cellulose ester. The labeled hydrolyzate thus prepared had a specific activity of 158,000 counts per minute per milligram (c./min./mg.).

The labeled Aquapel hydrolyzate was applied in heptane solution to standard one-pint milk cartons at the 0.2% level based on the weight of the cartons. After evaporating the solvent, the treated cartons were waxed by previously described methods(2).

The treated and waxed cartons were filled with distilled water and stored at room temperature (25-30 deg. C.) and at 3 deg. C. Aliquots of 10-ml. volume were removed at periods of three, five and seven days and evaporated to dryness in stainless-steel planchets. The residues were counted with a windowless G-M counter. A measured activity of 5 c./min. above background was taken as the detectable lower limit. This gave a sensitivity of three parts per billion (p.p.b.). See Appendix for the method of detection of Aquapel hydrolyzate in the

*Microbiological & Biochemical Research Center, Syracuse University, Syracuse, N. Y.
†Research Center, Hercules Powder Co., Wilmington, Del.
‡Numbers in parentheses identify References appended.

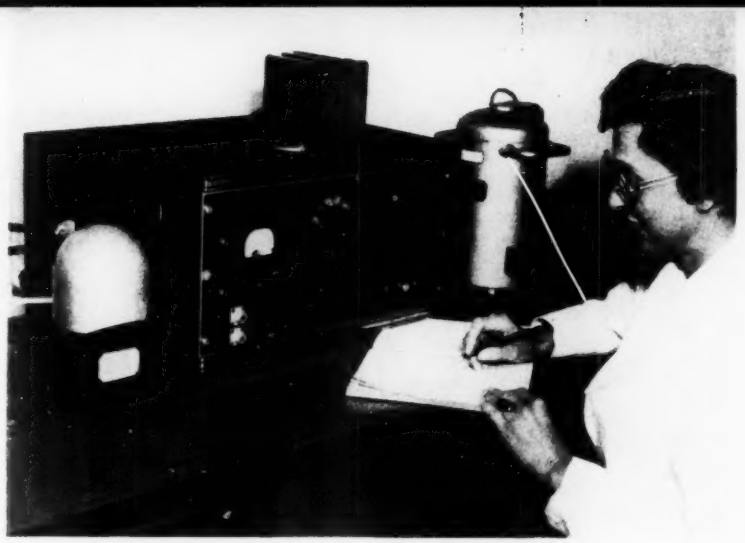


Figure 2. Radiotracer apparatus used in extraction studies conducted on Aquapel sizing applied to milk-carton board.

water extract. Water was used as extractant, with the concurrence of the Federal Food & Drug Administration, since milk solids interfere with counting efficiency by absorbing the low-energy β-rays of carbon-14.

The quantity of Aquapel hydrolyzate removed from the milk cartons during the waxing procedure and the concentration of hydrolyzate in the wax films on the cartons were also determined. Standard radiotracer techniques were employed.

Results and discussion

The weight of wax on the milk cartons was approximately equal to that of the paperboard from which the cartons were made and contained about 10% of the applied Aquapel hydrolyzate. Thus the concentration of hydrolyzate in the wax film was 0.02%.

However, this material appeared to be completely immobilized, since water did not extract it in detectable quantities (3 p.p.b.) for periods up to seven days and temperatures as high as 30 deg. C. as shown by the results in Table I.

Approximately 6% of the Aquapel hydrolyzate applied to the paperboard was transferred to the wax bath during the waxing operation. This raised the question as to the maximum level of hydrolyzate that might be expected in the wax film on the carton stock. All hydrolyzed Aquapel that goes into a wax bath must eventually deposit on the paperboard. Assuming that this hydrolyzate distributes itself evenly, by diffusion, throughout the wax film, then the maximum possible concentration of hydrolyzed Aquapel in the wax is equal to its original concentration on the paper, since the weights of wax and of paper in the finished carton are approximately equal.

The total quantity of Aquapel introduced into a pulp slurry during paper manufacture is about 0.2% by weight of the dry pulp. A large fraction of this

Table I: Extraction of Aquapel hydrolyzate from waxed milk cartons with water

Temperature, deg. C.	*Exposure time, days*	*Activity over background, c./min.*	*Concentration of size in extract, p.p.b.*
25–30	3	3	<3
	5	3	<3
	7	3	<3
3	3	1	<3
	5	1	<3
	7	0	<3

Table II: Extraction of Aquapel hydrolyzate from wax films with water

Concentration of size in the wax, %	*Temperature, deg. C.*	*Exposure time, days*	*Activity over background, c./min.*	*Concentration of size in the extract, p.p.b.*
0.02	3	3	3	<3
		5	1	<3
		7	1	<3
0.02	25–32	3	3	<3
		5	1	<3
		7	0	<3
0.2	3	3	4	<3
		5	4	<3
		7	6	4
0.2	25–32	3	4	<3
		5	12	8
		7	20	13

material becomes chemically bound to the paper, while some remains with the white water. Hence, the hydrolyzed Aquapel (ketone plus organic acid) in the paper is much less than 0.2%. However, experiments were made in which wax films on glass containing hydrolyzed Aquapel at the 0.2% level were exposed to water (Table II). Control experiments were also run at the 0.02% level.

Conclusions

1. Water in contact with waxed milk cartons treated at the 0.2% level with hydrolyzed Aquapel did not extract a measurable quantity of hydrolyzate.

2. Water in contact with wax films containing several times the concentration of hydrolyzate likely to be found in the wax on sized milk cartons picked up about 13 p.p.b. hydrolyzate after seven days' exposure at 25 to 32 deg. C. From this it was concluded that the quantity of hydrolyzate extracted from milk cartons under normal use conditions would be negligible.

3. These data have been submitted to the Food & Drug Administration. They concluded that Aquapel is acceptable as a size for milk-carton stock, drinking-cup stock and certain types of food-wrapper stock.

Appendix

Estimate of hydrolyzate in the water extract. Assume a measured activity of 5 c./min. above background for the residue from a 10-ml. aliquot of water extract. The quantity of hydrolyzate in the residue is then 5/158,000 or 3×10^{-5} mg., since the specific activity of the hydrolyzate, measured under identical conditions, is 158,000 c./min./mg. This quantity of hydrolyzate is contained in 10 ml. or 10^{1} mg. of aqueous extract. Hence, the concentration of hydrolyzate in the extract is three parts in 10^{9} parts of water or 3 p.p.b.

References

1. Lehman, A. J., and Patterson, W. J., "F&DA Acceptance Criteria," Modern Packaging, Vol. *28*, No. 5, p. 115 (1955).

2. Lundgren, D. G.; Peterson, J. H.; and Czerwin, E. P., "Radiotracer Studies of PVA-2," Modern Packaging, Vol. *30*, No. 6, p. 124 (1957).

Performance of a new polyethylene

[*Continued from page 173*]

Solubility measurements. Tared coupons 1 by $\frac{1}{4}$ by $\frac{1}{8}$ in. were inserted in different test environments and aged for one and three months at temperatures of 80, 120 and 150 deg. F. At the end of these intervals the coupons were removed from their containers, weighed and the results reported as per cent change in weight. The results of these tests are shown in Table V.

An examination of the above two tables indicates that the solubility of the low-pressure polymer in the many diversified chemicals used in this study is quite limited, except for very non-polar compounds. This is undoubtedly due to a large extent to the high crystallinity of this polyethylene at elevated temperatures. Furthermore, the increase in solubility at the higher test temperatures was not as great as expected. This again could be attributed to an annealing process.

Applications. Using standard equipment with slightly higher operating temperatures, it is possible to fabricate this new polymer into a variety of bottles and carboys. The increased resistance to permeation and chemical attack, as well as the improved rigidity of the new-type polyethylene containers over conventional-type polyethylene containers, should make it ideal for packaging many diversified chemicals. Fortunately, the low-pressure resin is not restricted to the bottling industry alone. Lay-flat and blown film, with low water-vapor and gas transmission properties and excellent high and low temperature properties, as well as sheet which can be vacuum formed to shape will undoubtedly broaden the potential applications of this new resin in the packaging industry.

This new polyethylene can be printed and heat sealed in much the same way as conventional polyethylene. However, unlike conventional polyethylene, products made of the new plastic can be steam sterilized. Items such as cotton swabs, surgical dressings, bandages, instruments, etc., can be sealed in this new polyethylene film and subsequently sterilized with no adverse effect to the polymer. Preliminary results obtained in our laboratories disclose that there is sufficient steam penetration at 250 deg. F. through Marlex 50 polyethylene film to sterilize adequately the contents of film packages.

In addition to pharmaceutical applications, there are a host of opportunities available in the packaging of foodstuffs. Since more and more people desire packages with a major "built-in" cooking convenience, the new polyethylene is suited for packaging fresh produce and meat and, in addition, frozen items such as vegetables, soups, meat sauces, sea food, etc., which can be cooked by heating the package in boiling water. The use of this method precludes the possibility of loss of flavor or dilution by water.

Although we have listed a number of general areas of application for a low-pressure polyethylene, we have not endeavored to cite every specific application. The ultimate use of this type of polyethylene for packaging is limited only by the ingenuity of the packaging engineer and the demands of the consumer.

References

1. Parliman, J. H., Modern Packaging, *21*, 198 (1948); *22*, 119 (1949).

2. Nielsen, A. R., and Parliman, J. H., Modern Packaging, *24*, 141 (1950).

3. Pinsky, J., Nielsen, A. R., and Parliman, J. H., *WADC Technical Report* 53-133, Part I, June, 1954.

4. Simril, V. L., and Hershberger, A., *Modern Plastics*, *27*, 97 (1950).

5. Cutler, J. A., Kaplan, E., McLaren, A. D., and Mark, H., *Tappi*, *34*, 404 (1951).

6. Pinsky, J., *Plastics Technology*, *1*, 159 (1955).

7. Jones, R. V., and Boeke, P. J., *Industrial and Engineering Chemistry* (1956).

8. Jones, R. V., and McGlamery, R. M., Modern Packaging, *30*, 159 (1956).

9. Bent, H. A., and Pinsky, J., *WADC Technical Report* 53-133, Part 2, Aug., 1955.

10. Van Amerogen, G. J., *J. Polymer Sci.*, *2*, 381 (1947).

11. Van Amerogen, G. J., *J. Applied Physics*, *17*, 972 (1948).

12. Carter, P. J., and Griffin, W. C., Modern Packaging, *29*, 176 (1955).

Broomfield House, Southgate

Three hundred and fifty years ago King James I of England is said to have used this beautiful country mansion 10 miles from London as a hunting-lodge.

Though now part of London it still stands, perfectly preserved and in daily use as a local museum. Its situation is the centre of a 54 acre park that bears its name, not far from John Dale's factory where quality containers of all kinds are manufactured

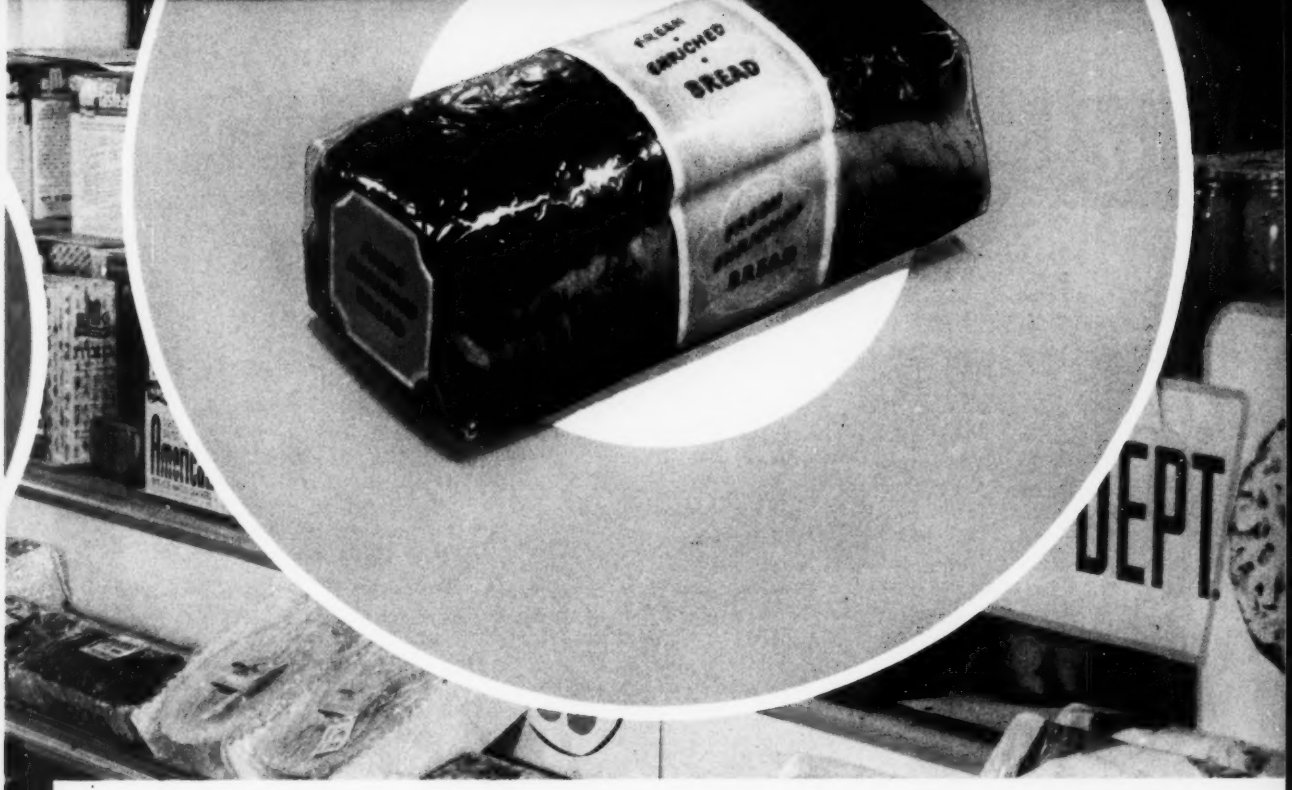
Our wide range of containers—metal and plastic—provide for every type of product as the many famous firms that use them already know.

JOHN DALE LTD

Brunswick Park Road
New Southgate, London N.11
Telephone: Enterprise 1272

Toronto, Canada
Telephone: Lennox 6-2117

FRESH
WEINER
ROLLS



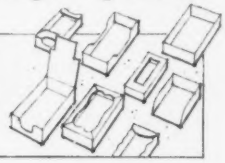
How to "Spark Up" Baked Goods Sales with Olin Cellophane Packaging

Bakers who package in high quality Olin Cellophane find that their baked goods get off the shelf faster and into more homes, more economically.

In addition to offering you the highest quality cellophane modern methods can produce, Olin is going all out to help you sell *more* baked goods! First of all, there is, for bakers, the free Olin Tra-Pak Kit. It will give you a concrete, immediate way of deciding which of the many types of tray overwraps can best help your products look better on the self-service shelf.

Olin also offers you the benefits of its national advertising in the LADIES' HOME JOURNAL and GOOD HOUSEKEEPING—advertising that urges your customers to eat baked goods at *every* meal, *every* day, and gives them solid reasons why they should. In addition, Olin has worked out ways and means by which your bakery can get the full benefits of this advertising at the point of sale. Contact the Film Division, Olin Mathieson Chemical Corporation, 655 Madison Ave., New York 21, N. Y., for full details about this sales-building new promotion.

FREE TO BAKERS, OLIN CELLOPHANE TRA-PAK yours on request. These 8 sample trays will help you develop quickly and easily the type of tray overwrap best suited for your rolls, sweet doughs, cakes and donuts.



Olin
CELLOPHANE
OLIN MATHIESON CHEMICAL CORP.

OLIN CELLOPHANE ADVERTISING in the LADIES' HOME JOURNAL and GOOD HOUSEKEEPING sells your best customers on the importance of eating bread and rolls at *every* meal. Olin Cellophane has earned the GOOD HOUSEKEEPING guaranty seal.

Q Questions & A Answers

This consultation service on packaging subjects is at your command. Simply address your questions to Technical Editor, Modern Packaging, 575 Madison Ave., New York 22, N. Y. Your name or other identification will not appear with any published answer.

Wax-type polish in film

Q: *We manufacture hard paste wax-type polishes for floors and other surfaces. The wax is poured hot into the packages and allowed to cool before packing for shipment. Our present packages are metal cans in various sizes. We would like an opinion on the possibility of using sealed polyethylene bags for this product. Do you think they would make satisfactory packages for our purposes?*

A: Your product is a hard wax composition which is heated to a liquid state for the filling operation. The relatively high temperatures and the chemical nature of the product make it very doubtful if polyethylene or any thermo-plastic film could be used. The plastic film bag would have to be a well-heat-sealed construction and carefully inserted in a paperboard box or fibre can. The surfaces to be sealed must be protected from spatter and smear from the filling operation. These operations would increase costs, because they cannot be done at high speed or without hand operations. However, the basic problem is the effect of the hot wax, which would melt and distort most plastic films and fuse them to the paperboard carrier. Also, the hot-wax mixture could attack some film and some of the components of the polish could penetrate through the film to cause staining of the paperboard carrier.

A plastic-film-lined package in a paperboard carrier would also require a long cooling time in comparison with metal or glass. It is also doubtful if the user of your product would find a plastic film package as convenient to use and reclose as metal or glass.

It will be necessary to test many grades and types of plastic films and liner constructions to find the best combination to resist the heat and chemical action of your product. It is doubtful if any such construction would meet all of the requirements and provide a convenient, low-cost package for this product.

Foil as a heat barrier

Q: *Can we make an aluminum foil package that will protect a product from excessive heat? Our interest in this is from the standpoint of packaging certain drug products for export to tropical countries where the heat could melt or otherwise impair the appearance or effectiveness of the products.*

A: Aluminum foil without surface coatings or printing has a very high insulating value for certain kind of heat—specifically, radiant heat. Heat is conducted or transmitted by three different means: convection, conduction and radiation. In the case of a packaging material, conduction or radiation are of primary interest because convection concerns the movement of heat by air or other gases. Aluminum foil on the exterior of a package can provide transient insulation against radiant heat, but would possibly accelerate the heating of the contents by conducted heat. For example, if the package were to be subjected for a very short period of time to sunlight or some other strong light source, the bright metal on the exterior would considerably delay the heat penetration into the package. However, the metal foil would accelerate the heat transmission if the heat came from a warm shelf or other heat source on which the package was resting.

In any event, the benefit to be gained by using aluminum foil for its heat-insulating value against radiant heat would not be sufficient to prevent the heating of the product in a relatively short time. No package can be made to be a heat barrier for more than a limited period because the package has no means of removing the quantities of heat which enter. This means that it would only require a relatively short time before the contents of any package would be affected if stored in a warm atmosphere, regardless of the package materials used.

Bag for alkaline liquid

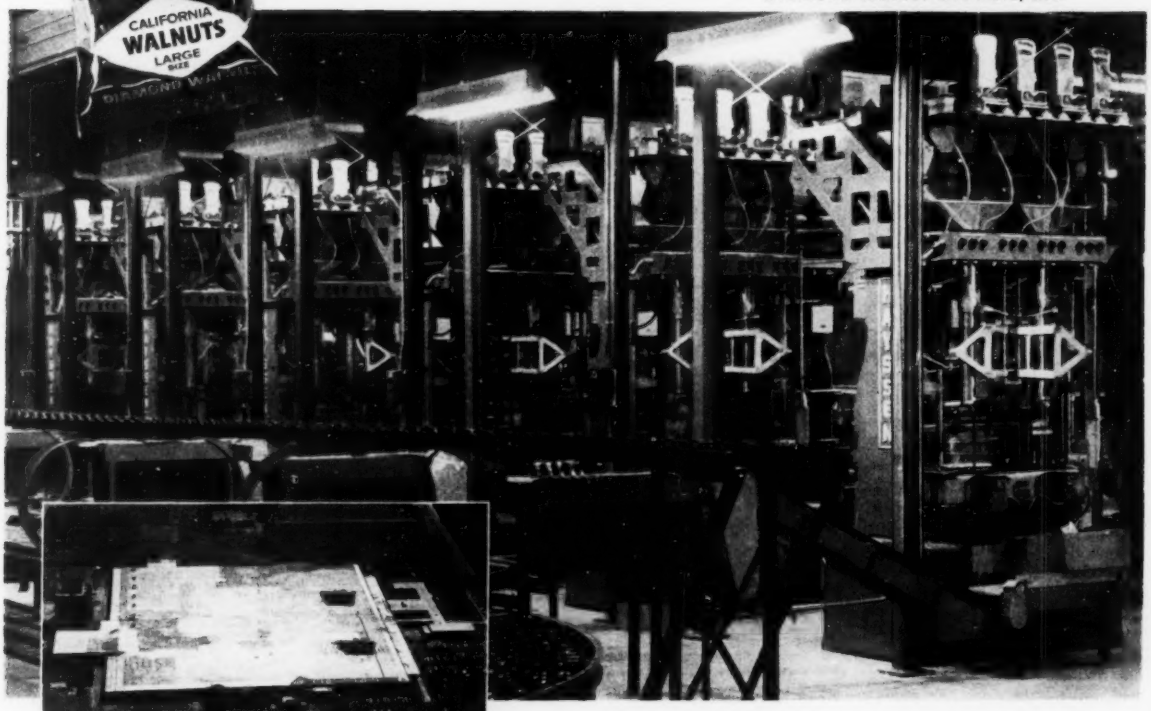
Q: *One of our products is an alkaline liquid detergent in concentrated form. We would like to package this in a polyethylene bag within a carton. Our tests of this package show many leakers, the leaks being in the heat seals of the bags, especially in the seal made after filling. Can you suggest how to make better seals and bag closures?*

A: Your product, a concentrated alkaline liquid detergent, is very difficult to handle and package successfully in any type of heat-sealed plastic bag. Such a product has low surface tension and chemical activity and can be called a surface active agent. This class of compounds can cause stress cracking in polyethylene and other plastics, and can also degrade heat seals that are not perfect welds.

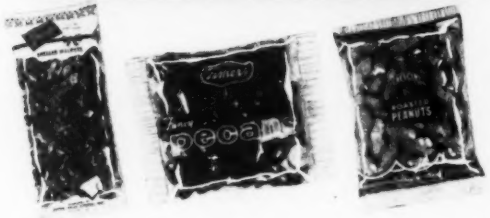
The heat-sealed-bag closure shows more leakage because it is made under less carefully controlled conditions of pressure and temperature than the other bag seals. Also, the filling operation probably smears small amounts of product on the surface to be sealed. This product smear will make it impossible to produce a strong heat-seal-bag closure. Your product appears to be impractical to package in a heat-sealed plastic package. The problems created by the need for special bag construction and filling methods make it doubtful that a low-cost and successful commercial package of this type can be made for this product. It is suggested that you try other types of packages and that you make extensive laboratory and market tests before going into full-scale production.

"COMPAK will save us $600,000.00 in packaging costs each season..."

says Mr. James H. Bryce, General Manager,
Diamond Walnut Growers, Inc.



27 completely automatic Hayssen COMPAK machines package over *one million one hundred thousand* packages of Diamond Walnuts *a day* in their new Stockton, Calif. plant.



Here are a few of the hundreds who have found COMPAK best fills their needs for flexible packaging.

CRESCENT NUT & CHOCOLATE CO. • FISHER NUT CO.
GEYSER FOODS • GORDON FOODS • H. H. EVON
JEWEL TEA • KELLING NUT CO. • PEANUT SPECIALTY
PEANUT PRODUCTS • SHEDD-BARTUSH FOODS
SUPER-VALUE STORES • TOM HUSTON PEANUT CO.

• The choice of Compak was made by Diamond Walnut after years of research and testing all available methods of packaging. The Compak was the overwhelming choice because of its simplicity, efficiency, and overall dependability. The entire production in flexible packages must be produced on the Compak machine in a relatively short period to meet a highly seasonal market. The packaging of 1,100,000 packages daily, with one-nut accuracy demanded the Compak to meet these exacting requirements.

• Let us show you how perfectly COMPAK will fit into your operation for the greatest efficiency, economy and flexibility in automatic packaging. Write today for our new COMPAK brochure.

HAYSSEN

MANUFACTURING COMPANY • Dept. MP-10 • SHEBOYGAN, WIS.

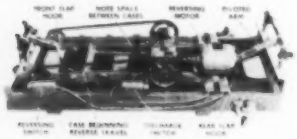
first in Automatic Packaging Since 1910

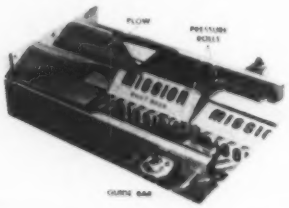
Albany • Atlanta • Boston • Chicago • Dallas • Denver • Detroit • Houston • Jackson, Miss.
Los Angeles • Minneapolis • New York • Philadelphia • St. Louis • San Francisco • Montreal • Toronto

Equipment and materials

Opener for food, beer cases

Nearly all types of four-flap cases standard in the brewing and food industries can be opened automatically for filling or unpacking by a new machine developed for RCA by Atkron, Inc. Reportedly capable of opening up to 30 cases

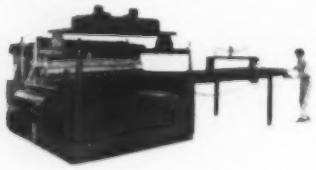




a minute, the machine can be used for both new cases and for returned cases in good condition. In operation, it moves the cases against a plow that lifts the top flaps, afterwards carrying the cases by conveyor past a dual hanging-hook arrangement to open the under flaps. The case travels in one direction against the first hook to open one flap and is reversed against the second hook to open the second flap. The conveyor then feeds the case to the unpacking or repacking unit. *Radio Corp. of America, 30 Rockefeller Plaza, New York 20.*

Large-size vacuum former

A large-size vacuum-forming machine, the Master Vac, has been introduced by Auto-Vac. The machine features a 21-sq.-ft. forming area with roll feed and semi-automatic take-off for single-operator, continuous production of thin-gauge plastic articles. Rolls up to 44 in.



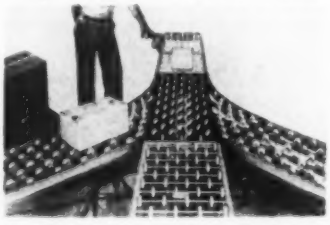
wide are handled at feed rates of 540 ft. per hour. The machine may also be used with heavy-gauge sheet plastic up to 0.125 in. thick. Thin-gauge applications for which the machine is recommended include shirt-box blisters, wall tile, decorative panels, lighting fixtures, display trays, shallow drawers and signs. Possible heavy-gauge applications are refrigerator liners, signs, machine housing panels and automotive parts. Other machine features include automatic tension controls, semi-automatic pressure take-off, remote controls and a three-clock system for forming cycles. *The Auto-Vac Co., 1983 State St. Extension, Bridgeport, Conn.*

Water-soluble film

Availability as a packaging material of Reynolon, a new-type polyvinyl alcohol water-soluble transparent film, has been announced. Made from a combination of three different resin formulations of water-soluble molecules, the material is said to be internally chemically plasticized so that there is no danger of a plasticizer leaching out to affect any product packaged in the film. The film is being offered as a packaging material for soaps, detergents, fertilizers, paints and tints, anti-rust agents, insecticides and other water-dispersable products. High-speed bag-forming and heat-sealing equipment for the new film is reportedly available from one machine company and several others have similar equipment under development. *Reynolds Metals Co., 2500 S. Third St., Louisville, Ky.*

Three-way conveyor switch

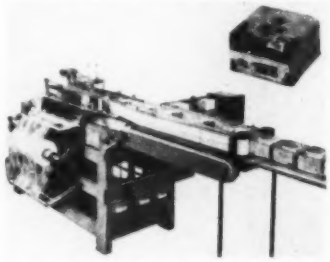
Automatic sorting of packages according to size, weight or classification is accomplished by a new three-way switch which provides means of dispatching packages into side aisles or straight ahead without the use of deflec-



tors. The switch may be controlled by remote push buttons, limit switches, photoelectric cells and other electrical means. Manual control may also be used. A variety of applications is suggested by the manufacturer. Limit switches automatically classify by package heights. Scale controls divert underweight and overweight packages to the right or left. A series of classifications can be made through these switches to bring like packages into the proper storage line. Automatic diversion to a bypass line can be made, should the main conveyor be blocked. The complete loading of one storage line can switch to load a second and a third line. Separation for routing to different areas can be arranged. The switches also can be used to feed tributary lines into a common main line. *E. W. Buschman Co., Clifton & Spring Grove Aves., Cincinnati 32, Ohio.*

Wrapping unit for polyethylene

Hayssen carton-style wrapping machines recently have been adapted to the use of polyethylene. The company announces that it has re-engineered the paper



feed and paper handling, added individual heat controls for each heater and incorporated a development for holding the package securely after it has been folded for sealing under pressure. Machines already shipped for packaging napkins are using from 1- to 2-mil material in production. The machine is available, according to the manufacturer, to package all products previously wrapped on the Hayssen machine. *Hayssen Mfg. Co., 1305 St. Clair Ave., Sheboygan Wis.*

Packaging odd-shaped items

Packaging of cylindrical or odd-shaped items in polyethylene tubes or bags is handled by two models of a recently introduced Superior Machinery packager. About 36 in. long, the C-1 model packages objects up to 4-in. diameter and 8 in. in length. A larger model, the C-2, packages objects 4 to 8 in. in diameter and up to 16 in. in length. Special designs are available for larger sizes or problem shapes. Typical application is the packaging of rolls of twine. *Superior Machinery Corp., 131 Thames St., Bristol, R. I.*

Glass-like plastics coatings

Two new external coatings, developed to provide extra protection and enhance the appearance of polyethylene containers, have been introduced. The first, a varnish coating, has been used in production runs of tubes and bottles for toiletries. According to the manufacturer, the coating imparts a high sheen, deepening and sharpening label

For cleaner collapsible tubes

ALCOA'S TURKISH BATH

Alcoa® Aluminum Collapsible Tubes get a scalding detergent bath after manufacture. This insures the extra cleanliness required by many sensitive products. The hot bath eliminates minute foreign particles and residual oil traces which are normal in most collapsible tube extrusion operations.

If you manufacture a pharmaceutical, a dentifrice, a food product or any of the many other items where cleanliness is mandatory, and you require a convenient economic package with real sales appeal, your best bet is the washed-clean Alcoa Tube.

ALCOA COLLAPSIBLE TUBES

Your Guide to the Best in Aluminum Value

Aluminum Company of America
1711-K Alcoa Building, Pittsburgh 19, Pa.

We are interested in packaging _____ in Alcoa Tubes. Please have an Alcoa salesman contact us.

Name _____

Firm _____

Street Address _____

City and State _____

Equipment and materials

[*Continued from page 182*]

colors. It also is said to eliminate static and to provide a tough, durable finish that prevents scratches and scuffing. The second coating, Barrier Gloss, gives natural polyethylene a glass-like clarity. It also is claimed that the new coating helps reduce permeation of essential oils and slows down the transmission of oxygen through container walls. Screening agents can be added to both new coatings during fabrication. *Bradley Container Corp., Thompson St., Maynard, Mass.*

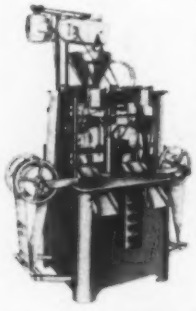
Cushioned shipping bag

All-purpose cushioned shipping bags, Corro-Bags, feature built-in cushioning. Fabricated from single-wall corrugated sheet, the bags are said to offer resilient cushioning on the inside and tough, scuff and puncture resistance on the

outside. The bags are reportedly 50% lighter and more compact than conventional shipping bags with bulky fillers. The bags are shipped flat with one end sewn. Designed for shipping non-fragile or semi-fragile products, or for keeping sharp products safely separated, the bags have double-scored edges as protection against end blows. They can be sealed with staples or gummed tape. *Sherman Paper Products Corp., 150 Oak St., Newton Upper Falls 64, Mass.*

Versatile liquid packeter

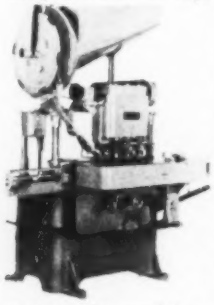
Designed to handle viscous, semi-viscous and free-flowing liquids, the Liquid Packeter is now in production by Brown Filling Machine. The new unit is specially recommended by the manufacturer for single-service packeting of soaps, foods and cosmetics in a variety of materials. It measures the product and forms, fills and heat seals the packet in one continuous operation. A reverse-vacuum action of the feed pump is employed for sharp product cut-off to eliminate faulty packets caused by "stringing" or "dripping."



Packet sizes up to 4½ by 4¾ in. can be produced and multiple forming and filling of up to eight packets per cycle and 25 to 50 cycles per minute is said to be possible. Packets with notched or perforated dispensing spouts also can be furnished by the machine. *Brown Filling Machine Co., Inc., Duck Mill Rd., Fitchburg, Mass.*

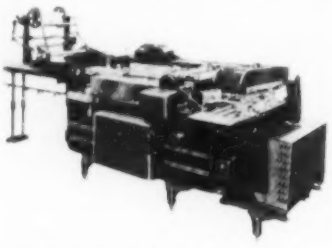
Automatic feed shut-off

When the feeding chute is filled on Resina's Model RU-120 capper, the tumbling action of the caps in the hopper stops automatically, resuming automatically when the chute has room for more caps. By eliminating unnecessary tumbling of the caps, this shut-off feature is designed to minimize the possibility of scuffing and marring of caps. The RU-120 is capable of speeds up to 120 per minute, depending on the size of the cap, according to the manufacturer. The machine is equipped with two ½-h.p. motors and an 8-ft. conveyor. *Resina Automatic Machinery Co., Inc., 572 Smith St., Brooklyn 31.*



Heat sealing of waxed paper

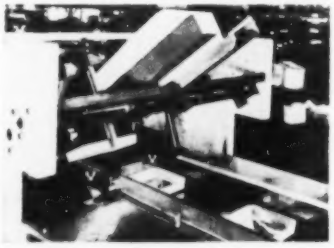
A new type of Campbell wrapper, especially designed for the heat sealing of waxed-paper wrappings automatically at high speeds, has been announced. The machine is intended especially for packaging of commercial bakery products and similar-type foods in



waxed papers and glassines. It wraps such items as cookies, crackers and biscuits on edge, stacked or flat in rows for neat, eye-appealing arrangements of either whole or fractional-size unit packs. Square, oblong, round, oval or irregular-shaped products are reportedly packaged at production speeds up to 125 multiple-pack units per minute and completely heat sealed throughout. *Hudson Sharp Machine Co., 1201 Main St., Green Bay, Wis.*

Tapered-tray feeding

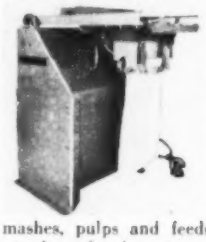
Development of automatic dispensing of both tapered trays and U boards through vacuumatic feeding, with a reportedly quick and easy conversion of existing equipment, has been announced



by Marathon. The trays are picked from a magazine by vacuum-feeder arms and positioned between flight bars for loading of product and overwrapping. The same feeder can be converted to handle U boards. The company has produced a color film on both operations as a service to the baking industry. *Marathon Corp., Menasha, Wis.*

Device packs compact bags

A bag packer which jounces as it packs to provide smaller, more compact packages, the G-73 Impacker, has been announced by Richardson Scale. The Impacker is designed for packing burlap, cotton or jute bags with products such as hulls, meals, mashes, pulps and feeds. An operator attaches the bag to an air-operated, foot-controlled bag holder while the packer is stopped. Upon release of a foot pedal, bag clamps lock the bag to the spout and the Impacker starts. After packing, the operator presses the pedal to drop the bag onto a conveyor or sewing belt. *Richardson Scale Co., Van Houten Ave., Clifton, N. J.*



Capper for squeeze cans

A fully automatic machine for the application of plastic closures to metal-end plastic cans is now available. Production rates are reported to be up to 120 per minute. The machine is designed for rotary operation and con-

What's up in closures?

Plastisol Cap Liners made with Low Cost

CITROFLEX A-4 *Plasticizer are Nontoxic...Odor-Free!*

● A good jar can do its job *only* if the lid offers the same protection as the glass.

That means that the sealing ring and liner inside the lid must work efficiently and at the same time be odor-free... nontoxic...completely harmless to *both* fatty and non-fatty food contents.

Nothing meets these requirements better than vinyl plastisol liners made with safe, low-cost Citroflex® A-4 plasticizer.

Citroflex A-4 also finds excellent use in plasticizing vinyls for coating food containers and for producing food wrap films. Citroflex A-2, a companion product, is a nontoxic, odorless plasticizer for cellulose acetate food wraps for both fatty and non-fatty foods. Both Citroflex A-2 and A-4 are accepted by the Food and Drug Administration.

Your Pfizer representative will be glad to explain how Citroflex plasticizers can serve your needs.

Costs of these citric acid esters are remarkably low, compared to other nontoxic plasticizers. Besides A-2 and A-4, the Pfizer Citroflex line includes Citroflex 2 (Triethyl Citrate), Citroflex 4 (Tributyl Citrate) and Citroflex A-8 (Acetyl Tri-2-Ethylhexyl Citrate). Check into the Pfizer Citroflex plasticizers today.

Manufacturing Chemists for Over 100 Years

Pfizer

CHAS. PFIZER & CO., INC.
Chemical Sales Division
630 Flushing Ave., Brooklyn 6, N.Y.
Branch Offices:
Chicago, Ill.; San Francisco, Calif.;
Vernon, Calif.; Atlanta, Ga.; Dallas, Texas

Equipment and materials

[*Continued from page 184*]

sists of a hopper and four spindles for applying the closures. Selection and application of the closures are automatic. Change parts are available to handle a number of sizes of cans. *Machine manufactured by A. W. Machine Co. Exclusive distributor: Speedex Equipment Co., 45-54 48 St., Woodside 77, N. Y.*

Twist ties in spools

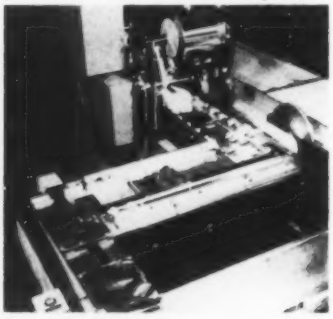
The vinyl and wire "twist to tie" tapes, Plas Ties, and the polyethylene-laminated paper ties, Fas-Ties, are now available on continuous-length spools, according to the manufacturer. The ties, which can be used for grouping, tying, identification and as bag closures, come in widths from $^3/_{32}$ to $^1/_2$ in. on spools of 1,000 to 3,000 feet. Lengths may be cut with shears or dispensed and cut automatically with a Plas-Tie Matic tape dispenser. For specific applications, the ties are supplied imprinted and in precut sizes. *Plas-Ties Co., P. O. Box 27, Santa Ana, Calif.*

Faster aluminum containers

Extensive research to help overcome production-line bottlenecks and inefficiencies in aluminum packaging for the highly competitive frozen-food industry has resulted in four new developments in packaging equipment and aluminum containers announced by Kaiser's Foil Kraft Division.

The four new developments include:

1. The Foilcrimp machine which applies flexible aluminum foil top sheets



Foilcrimp machine.

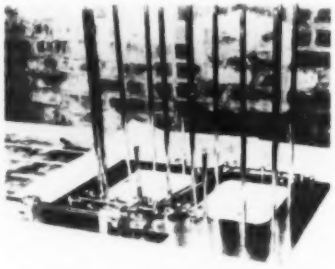
to a wide variety of open rectangular containers and trays at high speeds.

2. A new tray depositor to provide a mechanical means of feeding compartmented frozen-food trays onto a filling-line conveyor belt.

3. The Rotocrimp unit which introduces a continuous-motion closing principle to do away with the need for closing dies.

4. Aluminum containers with extra-high vertical rims of curled foil to eliminate the cut-finger hazard, to crimp more satisfactorily and to provide a firmer grip to the package top.

The Foilcrimp machine is a joint development of Foil Kraft and Scandia. Production models are available for full-scale commercial use through a leasing arrangement with Kaiser. The machine applies and crimps foil top sheets to trays or rectangular containers of many sizes at rated speeds of 30 to 60 per minute, with estimated labor savings up to 85% over hand-crimping operations. Because the foil, either printed or plain, is fed automatically from coils without waste, the developers estimate material savings up to 25%. The Foilcrimp machine, Kaiser says, is capable of savings up to $5,000



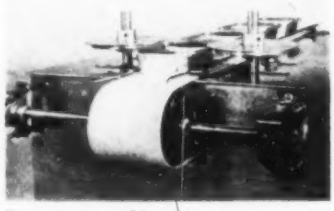
Tray depositor.

per million frozen-food dinner trays for the producer who has not previously been using a fully mechanized closing operation.

As the filled containers move by conveyor, the foil top sheets are applied from the coil and trimmed to exact length. The foil is curled under the container rims and a series of nylon rollers pressing against the top of the rims crimp the foil tightly. More secure closures are said to provide better protection and to prevent individual food items from jostling around in compartmented trays. Printed foil is registered within the area of the container's rims.

The tray depositor is designed to speed up and mechanize the starting point of frozen-dinner lines. The portable unit weighs about 50 lbs. Nests of empty trays placed in this mechanism are deposited individually on the conveyor to the filling line. The Foilcrimp and tray-depositing machines are easily integrated into filling lines.

The Rotocrimp machine, also on lease from Kaiser, is suited to packaging entree food items and bakery goods in foil containers. It may be fitted into any food line set-up to provide a continuous method of closing. The Rotocrimp machine differs from the standard press-type operation using closing dies in that the closure is effected by rotating "plows" as the containers pass



Rotocrimp machine.

through in a continuous motion at rated speeds up to 100 or more a minute. Adjustable to all sizes, the machine is said to eliminate the need to stock different-sized dies in order to make change-overs.

In addition to minimizing the cut-finger hazard, the raised vertical curl rim is said to save labor, since precrimping is necessary only in special instances. The rim also grips the container top more tightly to minimize "crippled" packages during warehousing, shipping and store display. *Foil Kraft Div., Kaiser Aluminum & Chemical Sales, Inc., 919 N. Michigan Ave., Chicago 11; Scandia Mfg. Co., North Arlington, N. J.*

Bench model counter

A bench model Electronic Hoppermatic, designed to package a large variety of small hardware, candies, pharmaceuticals, plastic parts, toy parts and the like, has been put on the market by U. S. Engineering. The model shown was made to take counts up to 10,000. But any count from 1 to 1,000 can be obtained by setting the dials on the predetermined electronic counting machine.

Counts as high as 200,000 an hour are said to be obtainable, depending on the item being counted. The basic Hoppermatic consists of a rotary drum with cast-in pockets that collect a quantity of parts and release them to a discharge

AUDITED PAID CIRCULATION
ABC

The Hallmark of Circulation Value

Three thousand five hundred and sixty advertiser, agency and publisher members of the Audit Bureau of Circulations have a voice in establishing and maintaining the standards responsible for the recognition of this emblem as the Hallmark of Circulation Value. It represents the standard of value that these buyers and sellers of advertising space have jointly established as measurement for the circulation of printed media.

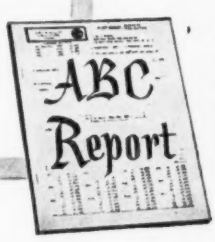
The basis for arriving at the advertising value of a publication is the Bureau's single definition of net paid circulation. With this as the standard, the circulation records of A.B.C. publisher members are audited by experienced circulation auditors. As specified in the Bureau's Bylaws, A.B.C. auditors have "access to all books and records."

Subscription and renewal orders, payments from subscribers, paper purchases, postal receipts, arrears are among the publisher's circulation records that are painstakingly checked by auditors and the resulting data are condensed and published in A.B.C. Reports.

Experienced space buyers use the audited information in A.B.C. Reports as a factual basis for their decisions in evaluating, comparing and selecting media. The FACTS in A.B.C. Reports for business publications include: • How much paid circulation • How much unpaid distribution • Occupational or business breakdown of subscribers • Where they are located • How much subscribers pay • Whether or not premiums are used • How many subscribers in arrears • What percentage of subscribers renew.

SEND THE RIGHT MESSAGE TO THE RIGHT PEOPLE

Paid subscriptions and renewals, as defined by A.B.C. standards, indicate an audience that has responded to a publication's editorial appeal. With the interests of readers thus identified, it becomes possible to reach specialized groups effectively with specialized advertising appeals.



This publication is a member of the Audit Bureau of Circulations and is proud to display the Hallmark of Circulation Value as the emblem of our cooperation with advertisers. Ask for a copy of our A.B.C. Report and then study it.

A.B.C. REPORTS—FACTS AS A BASIC MEASURE OF ADVERTISING VALUE

MODERN PACKAGING

Equipment and materials

[Continued from page 186]

track where they are oriented and counted. The pick-up pockets are universal for all items; the tracks and orienting wheel are adjustable for different items. No change parts are needed in shifting from one product to another. *U. S. Engineering Co., 40-22 22 St., Long Island City 1, N. Y.*

Easy-to-clean buckets

A major convenience feature of a new Frazier fully automatic elevator conveyor for packaging machinery is the ease with which the buckets can be removed for cleaning, according to the manufacturer. The manufacturer of the unit reports that other problems experienced with screw-type and scooping-type buckets are eliminated with the new design. The machine uses an interlocking-type bucket that runs in a horizontal plane at the feed point from the bin reservoir. This prevents breakage and spilling of the product. When the buckets leave the horizontal section they unlock and lift vertically. Standard delivery capacity is up to 4 cubic feet a minute. Feed ranges are adjustable from 0 to 4 cubic feet. Conveyors can be supplied for use with existing equipment by tailoring the vertical conveyor section and the top horizontal section to any size required. *Frazier & Son, 20 Industrial West, Allwood-Clifton, N. J.*

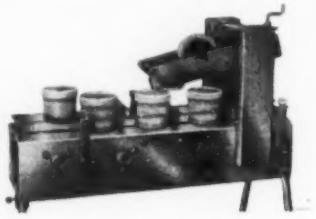
New film, packaging process

Three new packaging developments have been announced by Cryovac: a new positive-sealing shrinkable packaging material for wrapping meats, cheese and poultry; a new high-speed pouch processing machine (see picture),

and a vacuumized frankfurter package using the new film. The film comes in roll form and is said to handle easily on a wide variety of hand-wrap and automatic machines. It reportedly combines a high degree of clarity and transparency with skin-tight fit. Intended for large-volume producers, the pouch-processing machine is said to enable a single operator to produce up to 40 vacuum-sealed pouches a minute. *Cryovac Co., Div. of W. R. Grace & Co., Cambridge 40, Mass.*

Coder for filling machine

An automatic coder, designed to mark the lids of any nesting-type cup that can be filled on its Model 34 series or Model 341 filler, has been introduced by Anderson Bros. Mfg. The new Model 58-1 coder embodies a 4½-in.-diameter inking wheel which will retain



an adequate supply of ink for long runs. The coder can be adjusted for various cup sizes and for different worktable levels. Model 58-1 is chain driven by the filling-unit drive. If it is combined with a "push-thru" vacuum capper, power is transmitted by means of flexible couplings. Type characters measure $\frac{7}{16}$ in. in height and two complete sets of numbers from zero to nine plus cent signs are supplied with the unit. Over-all dimensions of the coder are: height, 45 in.; width, 22 in., and length, 32 in. Net weight is approximately 75 pounds. *Anderson Bros. Mfg. Co., 1907 Kishwaukee St., Rockford, Ill.*

Adhesive for polyethylene

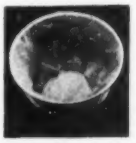
Attractive display packages for polyethylene articles can be assembled by an adhesive trade named Polygriptex, according to the manufacturer. Such items as doll furniture and small household wares made from polyethylene can be securely fastened to paperboard display cards with the Polygriptex, according to the manufacturer. *Adhesive Products Corp., 1660 Boone Ave., New York 60.*

Electric-tape dispenser

Two predetermined lengths of gummed kraft tape can be delivered by the electrically operated Meto-Electric Dispenser recently introduced. The new dispenser accommodates 35- to 90-lb. kraft tape, gummed in or gummed out, in widths from 1 to 3 in. wide and up to 48 in. long. Tape is reportedly dispensed at a rate of approximately 210 ft. per minute and the full 48 in. provided in less than 1½ seconds. The dispenser has a completely enclosed metal tank holding 2 qts. of water. A built-in heater is included at no extra cost. *Derby Sealers, Inc., 575 Madison St., Derby, Conn.*

Cylindrical plastic liner

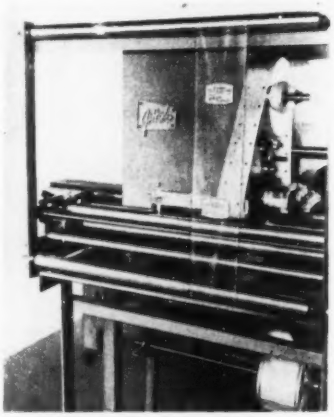
A new cylindrical polyethylene liner designed for insertion into either fibre or metal containers fits flush in all areas



to eliminate waste space in filling. The closure, a simple plastic lid, is clamped into place to make a liquid-tight package. Present uses for the liner reportedly include shipment of liquid and bulk materials such as chemicals, adhesives, inks, soaps, powders and explosives. According to the manufacturer, only one man is needed to insert the liner. *General Packaging Co., Chester, Pa.*

Attachment for printing film

The "Imagraph" machine for printing of multicolor designs on cellophane, plastic film or paper packages is now available. (See "Printing by Transfer: A New Method," MODERN PACKAGING, Aug., 1956, p. 139.) The unit, which can be attached to any standard wrapping, bundling or bag-making machine, employs a direct-transfer action that lays down as many as four different colors simultantously and permits plac-



ing of prints on either the face or underside of the packaging material. The packager can apply his own custom design, up to 4 by 3 in. in size, to low-cost, unprinted or partially preprinted stock. The "Imagraph" unit is specifically designed to apply Dennison Mfg. Co.'s "Therimage" transfers to a web of packaging material as it is fed

AVISCO® cellophane: a durable showcase for your product from factory to consumer

Today's high-speed production and marketing techniques give packaging materials a rough way to go. Here's why you'll find AVISCO cellophane *protecting and displaying* the country's big-name packaged brands:

On high-speed packaging machinery, it's as trouble-free as a film can be, glides easily through even the most difficult folding and tucking operations.

In transit, AVISCO cellophane can take even the most punishing warehousing and shipping conditions. Yet freshness and newness stay sealed in, impurities sealed out.

At the point of sale, it shrugs off abusive handling while its sparkle, clarity and bright printability stop shoppers and make sales.

AVISCO cellophane's a wonder-wrapper all right. Ask us what it can do for *your* products.

AMERICAN VISCOSE CORPORATION, Film Division, 1617 Pennsylvania Blvd., Philadelphia 3, Pa.

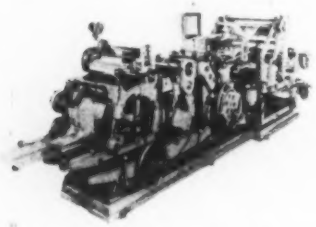
Equipment and materials

[*Continued from page 188*]

into a packaging machine. Up to 100 impressions a minute are said to be possible with the fully automatic unit. Improved appearance, positive adhesion, less bulk and faster application are cited as advantages over other labeling methods. Lower cost and greater flexibility are claimed as advantages the process offers over pre-printed film or paper. *Adolph Gottscho, Inc., 6 Evans Terminal, Hillside 5, N. J.*

Versatile bag machine

Paper, film and foil bags in a variety of styles and sizes reportedly can be formed by the new Potdevin PFF bag machine. Both the flush-cut and the full-lip types of bags can be manufactured, according to the company. Sizes



range from 2 by 6½ in. to 10½ by 16¼ inches. Materials handled by the machine include cellophane, Pliofilm, Kodapak, acetate, polyethylene laminations, polyester film, paper and foil. Combination bags with cellophane fronts and paper backs are also produced by the machine. Finished bags are delivered stacked vertically with every 50th bag raised for the count. *Potdevin Machine Co., 200 North St., Teterboro, N. J.*

New gold-coating process

An economical new dipping process for applying 24-carat gold coating to metal and plastic packaging components has been announced. The process reportedly imparts a better looking, more permanent coat than electroplating, yet uses 35% less metal. Requiring only a suitable container and a heat source, it eliminates the complex equipment and technical skill electroplating calls for, the company says. Packaging applications include whiskey and perfume bottle closures. *Baker & Co., 113 Astor St., Newark 2, N. J.*

Tray former for corrugated

Assembly of corrugated trays at speeds ranging from 15 to 30 per minute is said to be possible with a new three-station machine. The machine moves the corrugated blanks from a hopper under the glue heads and forms the finished tray around a plunger-type mandrel. The assembler reported'y will handle corrugated blanks up to 23 by 34 in. Containers can be formed with sides from 2 to 6 in. high and measuring from 10½ in. wide by 16 in. long to 16 in. wide by 22 in. long. However, two mandrels are required to handle the entire range of tray sizes and an additional set of spray heads is needed to glue tray heights above 4 in. The machine occupies approximately 44 sq. ft. of floor space. *Huntingdon Industries, Inc., 860 Welsh Rd., Bethayres, Pa.*

High-density polyethylene

The start of full production of National Plastic's new Wynene linear polyethylene has been announced. The new sheeting is a high-molecular-weight polyethylene and the company is recommending it for vacuum-forming operations because of its inherent heat-forming characteristics, its rigidity in the finished product and its resistance to heat and cold. *The National Plastic Products Co., Odenton, Md.*

Small vacuum packager

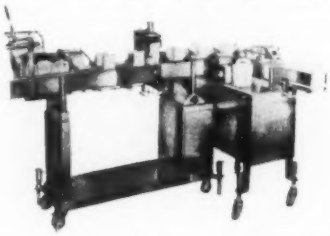
Designed to meet the needs of the small meat packer and cheese processor or the supermarket packager, a new Royal-Vac vacuum-packaging machine reportedly will produce more than 15 packages per minute on 1-lb.-size products. The machine is not recommended for use for packages exceeding 5 lbs. Maximum pouch dimensions are 11½ by 22 in. The Royal-Vac, which features a built-in vacuum pump unit, requires an over-all floor space of 21 by 21 in. *Royal Packaging Equipment, Inc., 1406 Bergen Blvd., Fort Lee, N. J.*

Electrode for treating film

A new electrode that is said to simplify the treating of polyethylene film by bombarding the surface with electrons has been announced. The electronic treater is designed to be mounted on any type of extruder for one simple operation that treats film uniformly in any gauge in widths up to 66 in. in strips or over-all. The metal treating roll does not require any dielectric covering. The electrodes assembly used with an 8-in.-diameter treating roll reportedly will handle lay-flat tubing at speeds up to 100 ft. per minute. *Aetna Electronic Corp., Carle Place, N. Y.*

Filler for ½-gal. carton

Speeds up to 1,400 per hour are reported for a fully automatic machine that will form, fill and close the new ½-gal. ice-cream carton. The equip-



ment is furnished as two units. The first, Model 235-1, will form, fill and advance cartons to the closure unit, and Model 435, which operates at right angles to the basic filling line. According to the manufacturer, only one operator besides the freezer man is needed to operate the new machine. *Anderson Bros. Mfg. Co., 1907 Kishwaukee St., Rockford, Ill.*

Price boost for cellulose bands

The price of Cel-O-Seal cellulose bands was increased approximately 5%, effective with orders placed on and after September 16. According to the manufacturer, manufacturing costs have increased 69% since 1950, while, up to the current increase, prices rose only 17%. *E. I. du Pont de Nemours & Co., Inc., Wilmington 98, Del.*

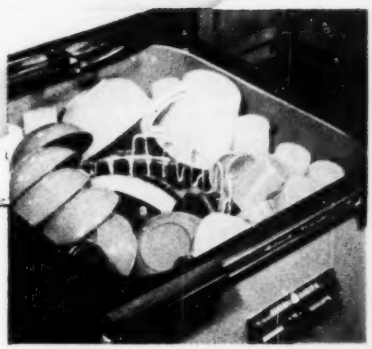
Gold flexographic inks

A new line of flexographic inks developed to produce metallic effects on moistureproof cellophane is being offered. Called "Gold-Tone," the inks are said to equal the beauty of regular gold bronze inks without any of their disadvantages. Advantages cited by the manufacturer are: lower cost, shorter wash-up time during the press run, reduced wear on plates and rollers, less tendency to separate in the fountain, and no tarnish problem. Designed for reverse printing, the inks are handled like other alcohol-type inks. They are supplied in ready-to-use form in a color range from pale gold to deep copper shades. *Bensing Bros. & Deeney, 3301 Hunting Park Ave., Philadelphia 29, Pa.*

New Product Opportunities with Sterilizable

MARLEX* 50

POLYETHYLENE



Articles made of rigid, heat-resistant MARLEX 50 polyethylene can withstand temperatures from −180° to 250°F! Molded housewares are undamaged by boiling hot wash and rinse cycles in automatic dishwashers. Nursing bottles withstand live steam sterilization at 15 pounds per square inch steam pressure.

This new Sales Service Lab at the Phillips Research Center in Bartlesville is equipped with the latest plastics research and production equipment. Here, experienced engineers are developing data on new processing techniques and product applications, available to you through your local MARLEX sales representative.

New product applications for MARLEX 50 polyethylene include syringes, sterilizable pipe and fittings for chemical and food processing, pharmaceutical and food packaging that can be boiled or sterilized before filling, infants' toys, and many more yet to come. MARLEX 50 is odorless . . . nontoxic . . . and highly impermeable.

Bandages, swabs and instruments sealed in tough MARLEX 50 film can be autoclave sterilized without removal from packages. MARLEX 50 is also ideal for molded hospital items that must be sterilized repeatedly . . . such as vials, bottles, tumblers, pitchers, emesis basins, funnels, beakers, bedpans, urinals, trays.

*MARLEX is a trademark for Phillips family of olefin polymers.

PLASTICS SALES DIVISION, PHILLIPS CHEMICAL COMPANY

A Subsidiary of Phillips Petroleum Company, Bartlesville, Oklahoma

DISTRICT OFFICES

NEW ENGLAND	NEW YORK	AKRON	CHICAGO	WESTERN	SOUTHERN & FOREIGN
322 Waterman Avenue, East Providence 14, R. I. GEneva 4-7600	80 Broadway, Suite 4300 New York 5, N. Y. Digby 4-3480	318 Water Street, Akron 8, Ohio FRanklin 6-4126	111 S. York Street, Elmhurst, Ill. TErrace 4-6600	330 Security Bldg., Pasadena, Calif. RYan 1-6997	Adams Building, Bartlesville, Oklahoma Bartlesville 6600

Plants and people

Stockholders of **The Dobeckmun Co.**, Cleveland, Ohio, have approved merging the firm with **The Dow Chemical Co.**, Midland, Mich. The merger was ratified by holders of 93.5% of the outstanding common shares. The company, according to **L. I. Doan**, Dow president, now will be known as The Dobeckmun Co., a Div. of The Dow Chemical Co. **Thomas**

Doan (left) and Dolan

F. Dolan, Dobeckmun president, will continue as division president. All other officers will continue in their present positions with one exception. **Baird Johnson** succeeds **Clark T. McConnell** as division secretary. Both are members of the same Cleveland law firm.

Donald K. Ballman, Dow's general sales manager, has been promoted to the position of director of sales. He succeeds **Donald Williams**, who recently was appointed director of corporate relations. **William R. Dixon** has been promoted to the post of general sales manager, after having served as assistant general sales manager since 1951.

James R. Carter has been elected president and chief executive officer of **Nashua Corp.**, Nashua, N.H. He succeeds **Robert A. Brown**, who will con-

Carter Prew Foster

tinue with the company as chairman of the board and will also continue as president of Nashua Corp.'s subsidiaries, Nashua (Canada), Ltd., and Canadian Scalright Co. Ltd. **Robert H. Prew** has been elected executive vice president and **William H. Foster** has been promoted to director of the company's sales.

Other promotions in Nashua's sales organization include: **Henry W. Bailey**, to sales manager of commission sales division, a new post including responsibility for Nashua package-sealing sales and Pakay sales; **Charles H. Canfield** continues as manager of Pakay sales, with added responsibilities; **Carl E. Doane**, to sales manager of converter sales divisions; **Walter P. McLaughlin**, to manager of corrugated box industry sales, and **Arthur T. Stevens**, to manager of set-up box industry sales, both new positions; **William P. Lyle**, to sales manager of flexible packaging divisions; **Carl S. Carlson**, to manager of baking industry sales, **John D. Clark** to manager of frozen-food, soap and textile industry sales, and **Carl F. Foster**, to manager of confectionery and paper industry sales, all three new positions; **Austin W. Sanborn**, to a newly created position of sales manager, coating sales division; **Robert F. Wheeler**, to manager of merchant sales, and **Edward W. Wilson**, to sales manager, Surehold sales division.

Frank S. Kapral, former Michigan State football star and coach at Dartmouth College, has joined the sales staff of Nashua's Flexible Packaging Division.

Walter Shorter, vice president in charge of paper and bleached board sales for **Union Bag-Camp Paper Corp.**, New York, has been named vice president and general sales manager. **Clark Reynolds**, formerly manager of the sales-manufacturing control department, has been made assistant to Mr. Shorter.

Interchemical Corp., Printing Ink Div., New York, has completed a new, modern structure for its Baltimore branch office and service station. Exterior features include ample parking space, a depressed truck dock, access to a railroad siding and an ink tank storage farm of three 15,000-gal. units. The interior of the building, covering 13,000 sq. ft., includes a section for the manufacture of flexographic inks. IPI reports that the new service station is equipped with the most modern facilities for mixing, milling, color matching and proofing.

Angier Adhesives, a division of Interchemical, announces that **Howard Ellerhorst, Jr.**, has joined its newly expanded sales staff as vice president and director of sales. **Harrison F. Rowbotham** becomes vice president in charge of sales promotion and **George Beesley**, vice president of finance.

Ernst Ehrman, industrial designer, recently moved to new and larger quarters at 21 W. 56 St., New York 19.

St. Regis Container Co. has appointed **Gerard M. Kincaid**, formerly sales manager, as general manager of its Cleveland Corrugated Box Co. Div. and **George A. Waters** to succeed Mr. Kincaid as sales manager.

Goodyear Tire & Rubber Co., Akron, Ohio, has announced the following promotions in the chemical products development department: **P. J. Vaughan**, formerly section head who has been with the company since 1939, has been made department manager and **J. F. Ehrenfried** and **P. Beebe, Jr.**, have been promoted to section heads. Both men have been with Goodyear since 1942. Mr. Ehrenfried is responsible for the conversion of packaging machines and Mr. Beebe for the development and field technical service for packaging films.

Appointment has been announced of **Carroll F. White** as sales manager of the container department, **Dewey & Almy Chemical Co.**, Div. of W. R. Grace & Co. Mr. White has served as product manager of can-sealing compounds and assistant sales manager. **William M. Rand, Jr.**, also formerly sales manager of the container department, has been named sales manager of the chemical specialties department in the same division. **Paul Y. Clinton** has been made manager of manufacturing for the division and **George C. Sykes**, manager of machine production and design. Mr. White has appointed **Allan A. Paterson** Midwestern sales manager of cover and drum compounds and **Richard W. Haward** as Midwestern sales manager of can, closure and industrial compounds. Both will be based in Chicago.

White

Chicago Printed String Co. has purchased the **Rapid Ribbon Corp.**, Montrose, N. Y., which will operate as a separate subsidiary, with **J. M. Gordon**, founder, continuing his association with the organization.

Owens-Illinois Glass Co., Toledo, Ohio, has announced plans to built a glass plant near Valencia, Venezuela. The plant will be operated by **Owens-Illinois de Venezuela, C. A.**, a new corporation established as a subsidiary. **John L. Gushman**, vice president and general manager of the O-I International Div., is president of the new subsidiary and **Paul B. Stewart** is vice president and resident general manager. Production is expected to be under way in 12 months and first products will be glass containers for foods, beverages and drugs, and glass tumblers. **E. M. Jones** has been named central regional sales manager for the glass container division of the parent company. He will be succeeded as manager of the processed foods division by **Kevin K. Hepp**. Both will make Toledo their headquarters. **Frank T. Cantrill** has been named to replace Mr. Hepp as food industries manager in New York.

Robert J. May has been assigned responsibility for the sales of all resale products distributed by the retail trades

"...and every fourth box is free!"

This H&D corrugated box
costs only three-quarters as much
as the wooden case it replaced;
provides easier handling, improved
identification for heavy hardware.
Is cost a problem?
Better see H&D.

HINDE & DAUCH

Subsidiary of West Virginia Pulp and Paper Company

AUTHORITY ON PACKAGING • SANDUSKY, OHIO
14 FACTORIES • 42 SALES OFFICES

Bracon . . . SQUEEZE-TO-USE PACKAGING

Snack time . . . is *squeeze* time!

BRACON polyethylene tubes for cheese spreads, dessert toppings, etc. are a natural for the casual living collegiate. Open the crackers . . . slice the cake . . . squeeze out *just the right amount*!

Future homemakers, like their moms at home, find these functional squeeze containers a real boon to convenience living. For the merchandiser, this colorful packaging provides a real plus at no extra cost.

Remember, only BRACON offers squeeze-to-use tubes, bottles *and* cans for all kinds of products. Why not contact your Bradley representative, today? . . . Offices in most major cities.

BRADLEY CONTAINER CORPORATION

A SUBSIDIARY OF AMERICAN CAN COMPANY

Maynard, Mass. — *New York, Chicago, Los Angeles, Toronto*

Plants and people

tape division of **Minnesota Mining & Mfg. Co.**, St. Paul, Minn. He also will continue as sales manager for grocery trades for the division.

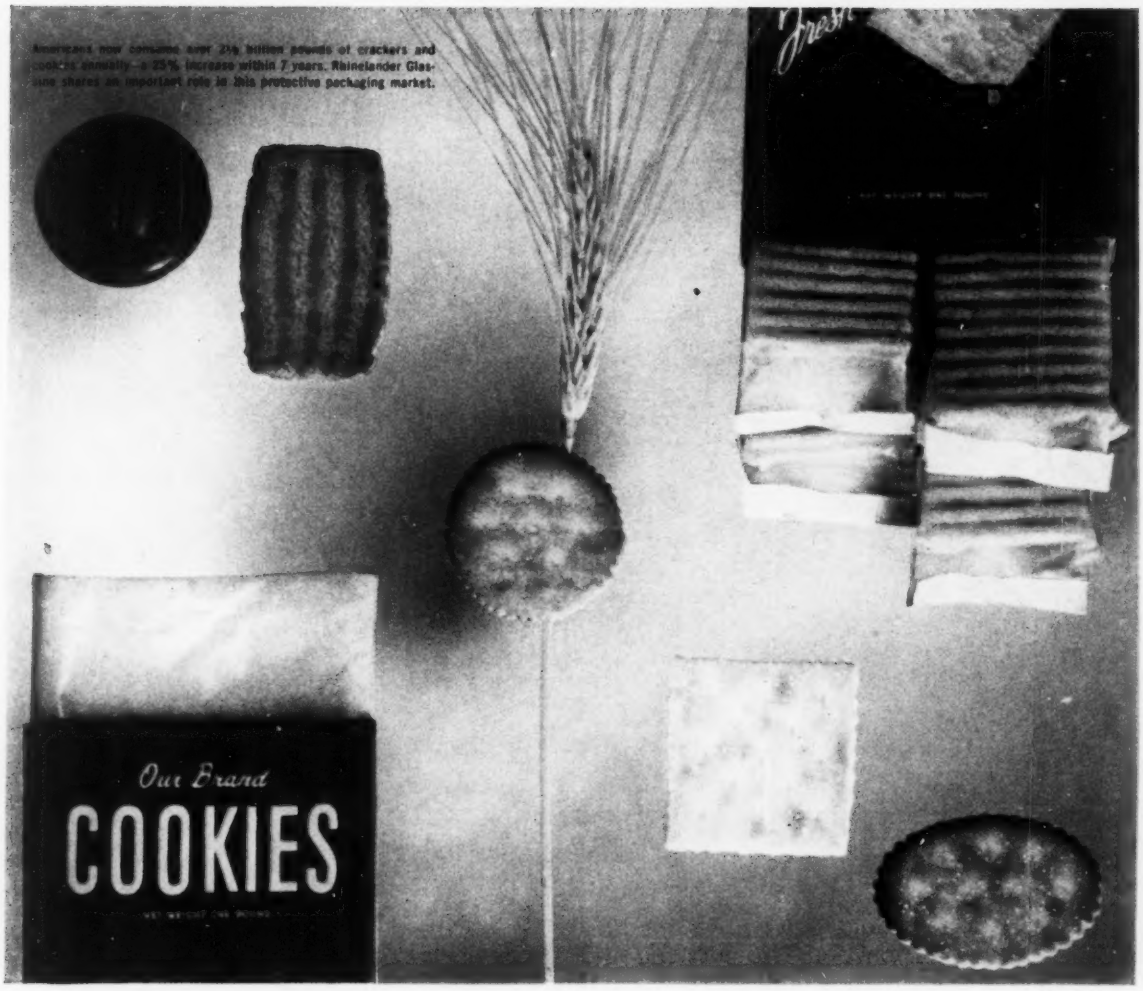
National Can Corp. of Chicago has purchased from **Consolidated Food Corp.** the can-manufacturing facilities of the former **Phillips Packing Co.**, Cambridge, Md. National Can will supply Consolidated their requirements of cans for all packing operations of the former Phillips plants. The new acquisition, which will be National Can's 17th plant, has a capacity for producing more than three million cans per day.

Milprint, Inc., Milwaukee, Wis., has started production in a new plant in North Kansas City, Mo. The new facility will convert all flexible packaging materials, especially flexographic printed film rolls and bag. **Willard Liedtke**, previously foreman at the company's DePere plant, will be manager at the new plant.

W. B. Bronander, Jr., has been elected president of **Scandia Mfg. Co.**, North Arlington, N.J., following the death of his father, former president and founder of the 39-year-old company. **Leslie L. Vanderbilt** of Newark has been named chairman of the board and **Mrs. Gabriel S. Aiello, Jr.**, daughter of the founder, is now secretary-treasurer. Three veteran department heads were elected vice presidents and given new titles, as follows: **Eric Allen, Sr.**, from plant superintendent to director of manufacturing; **Andrew W. Anderson**, from chief engineer to director of engineering, and **Edwin N. Brooks**, from sales manager to director of sales. Also promoted were **Mrs. Irene M. Menner**, from assistant office manager to assistant secretary and manager of the customer service department, and **Robert Anthony**, from office manager to assistant treasurer. Mr. Bronander, Jr., is also president of the Bronander Engineering & Research Co., president of the Packaging Machinery & Mfrs. Institute and a director of the Packaging Institute.

Bronander

Plans for a second plant to produce Petrothene polyethylene have been announced by **National Petro-Chemicals Corp.**, New York. Scheduled for operation by late 1958, the new plant will produce 75 million pounds per year of intermediate-density polyethylene. Capacity of the company's Tuscola, Ill., plant is now 100 million pounds per year. Site for the new plant has not been chosen, but several Gulf Coast sites are under consideration. National Petro-


Americans now consume over 2½ billion pounds of crackers and cookies annually—a 25% increase within 7 years. Rhinelander Glassine shares an important role in this protective packaging market.
Fresh
Our Brand
COOKIES

GLASSINE

protecting that oven freshness

Rhinelander plain, waxed*, or coated Glassine in opaque and transparent grades solves the difficult problem of safeguarding the oven-fresh crispness and delicate flavor of cookies and crackers from moisture laden air. Waxed and coated grades provide a formidable moisture barrier. Rhinelander Glassine's folding quality makes it easy to open and tightly re-close the package.

Bakers find Rhinelander Glassine the economical answer for inner bags, liners, unit packs, wraps, laminated and corrugated trays and dividers. This versatile paper works smoothly with automatic and high speed packaging equipment.

Samples are available for your particular application. Write today.

GLASSINE GREASEPROOF

*Waxed and printed grades available through leading converters.

RHINELANDER PAPER COMPANY

Rhinelander, Wisconsin

Subsidiary of St. Regis Paper Company

Using package inserts?

Call on Carey—the package insert specialists

Carey Press has the specialized know-how and the specialized equipment to handle every type of package insert job. Result: Carey customers get quick delivery of high quality work at low prices. Find out how 1/16" saved more than $4,000 with Carey-Purchasing Agent consultation.

round-the-clock operation
1, 2, 3, and 4 color printing presses
large and small runs
inventory roll stock with sheeting equipment
printing for special chemical tolerances

See for yourself. Get in touch with Arthur Friedman, Printing Engineer and Sales Mgr., and find out why so many leading companies "call on Carey" for their package insert jobs.

63 years of achievement

CAREY TRIAL RUN SERVICE eliminates tie ups in your packaging production line.

Carey Press will supply you with a quantity of blank stock, cut and folded to the exact size of your package inserts, for testing on your automatic inserters and other packaging production equipment. That way you're sure you can handle the job *before* you give Carey the go ahead.

CAREY PRESS CORP. / 406 WEST 31st STREET / NEW YORK 1, N. Y. / CH. 4-1000

on *any* PACKAGING MACHINE there is a place where IMS SILICONE FLUID SPRAY WILL CUT YOUR COST

Anywhere Any Packaging Material Tends to Stick

IMS SILICONE SPRAY will cut your scrap and stoppage rate—Save You Money! Try it on your packaging line—you'll see why almost overnight this amazing anti-stick material has become a necessity in the modern high-speed packaging field!

PRICES: $ 2.00 Per Sample Can
$ 18.00 Per Unbroken Dozen
$197.40 Per Unbroken Gross

Delivery FREE Anywhere in the U. S. A.

Still lower prices on larger orders shipped in one gross lots on any schedule you request.

INJECTION MOLDERS SUPPLY CO.
3514 Lee Road Cleveland 20, Ohio
WYoming 1-1424

Plants and people

Chemicals also will build a new plastics compounding plant near Tuscola, where polyethylene will be compounded with colors, carbon black or other additives. Initial capacity of the compounding plant, scheduled for mid-1958 operation, will be 25 million pounds per year.

Crossett Paper Mills, Div. of The Crossett Co., Crossett, Ark., has completed plans to rebuild the wet end of its No. 1 kraft paper machine at a cost of approximately a half million dollars. Alterations, expected to be finished early in 1958, will include installation of a special Beloit stream flow valve and a new air cushion Beloit headbox with an adjustable slice opening. Results of the changes will be a more level sheet, better basis-weight control, more uniform moisture control, consistent specifications and more evenly wound mill rolls, according to the company.

George Henschel has joined **Continental Can Co.**, New York, as assistant to the general manager of sales, Metal Division. Mr. Henschel comes to Continental with more than 25 years' experience in the can industry.

Henschel

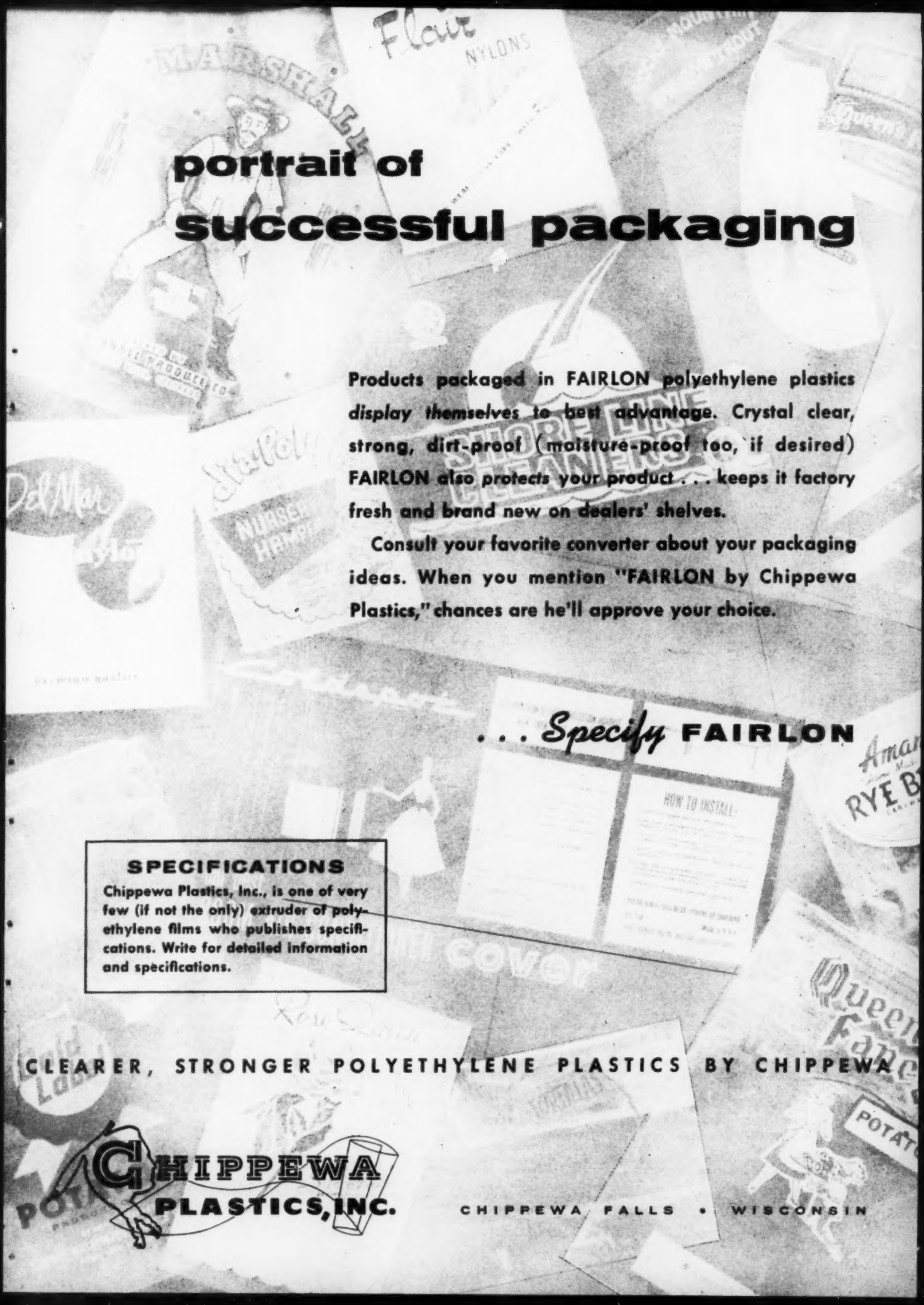
The following sales reassignments have been announced by Continental's **Shellmar-Betner Flexible Packaging Div.**: **W. C. Curtis, Jr.**, from sales manager at Mt. Vernon, Ohio, to product sales manager for transparent films; **Ralph Stafford**, from sales representative in Mt. Vernon to district sales manager; **Edward N. Chilcott**, from salesman in South Gate, Calif., to district sales manager, Devon, Pa. **John O. Jones** has been made district sales manager, Dallas, Tex., for the **Hazel-Atlas Glass Div.**, succeeding W. H. Marsh, who has retired because of ill health.

Brocken

Karl Brocken, design consultant, has been commissioned by Continental to create an advanced styling and design section within the company. The new section will be instituted first in the **Hazel-Atlas Glass Div.**, Wheeling, W. Va. **Robert Sanders**, former design director of the Sinclair Glass Co., has been appointed director of the new section.

The **Robert Gair Boxboard and Folding Carton Div.** of Continental has moved its Chicago office to 135 S. LaSalle St., Chicago 3.

A new plant designed for peak efficiency of operation has been announced by **Michigan Industrial Packaging, Inc.**, Grand Rapids, Mich. Front section of



portrait of successful packaging

Products packaged in FAIRLON polyethylene plastics *display themselves* to best advantage. Crystal clear, strong, dirt-proof (moisture-proof too, if desired) FAIRLON also *protects* your product . . . keeps it factory fresh and brand new on dealers' shelves.

Consult your favorite converter about your packaging ideas. When you mention "FAIRLON by Chippewa Plastics," chances are he'll approve your choice.

. . . *Specify* **FAIRLON**

SPECIFICATIONS

Chippewa Plastics, Inc., is one of very few (if not the only) extruder of polyethylene films who publishes specifications. Write for detailed information and specifications.

CLEARER, STRONGER POLYETHYLENE PLASTICS BY CHIPPEWA

CHIPPEWA PLASTICS, INC.

CHIPPEWA FALLS • WISCONSIN

FEDERAL PAPER BOARD COMPANY, INC.

NATIONAL FOLDING BOX DIVISION

MORRIS PAPER MILLS DIVISION.

SALES OFFICES: NEW YORK, N. Y.; CHICAGO, ILL.; NEW HAVEN AND VERSAILLES, CONN.; BOGOTA, N. J.; BOSTON AND PALMER, MASS.; CLEVELAND AND STEUBENVILLE, OHIO; PHILADELPHIA AND PITTSBURGH, PA.; MARION, IND.

FOLDING BOX PLANTS: BOGOTA, N. J.; NEW HAVEN AND VERSAILLES, CONN.; PALMER, MASS.; COLUMBUS AND STEUBENVILLE, OHIO, PITTSBURGH, PA.; MORRIS, ILL.; MARION, IND. • PAPER BOARD MILLS: BOGOTA, N. J.; NEW HAVEN, MONTVILLE AND VERSAILLES, CONN.; MORRIS, ILL.; READING, PA.; STEUBENVILLE, OHIO; WHITE HALL, MD.

Plants and people

the plant includes lobby and general offices, Army and Navy inspection offices, test laboratory and label department. The middle section, largest of three, includes loading docks with facilities for four trucks at one time and the packaging area for small and medium-sized items. The rear section, built with a higher ceiling to accommodate overhead cranes, is for boxing and crating bulky goods.

Hudson Sharp Machine Co., subsidiary of **Food Machinery & Chemical Corp.**, Green Bay, Wis., has announced changes in its sales organization. **Cletus A. Wetli**, a 20-year company veteran in en-

Wetli Bourgeois Jansing

gineering and sales, will continue as sales manager for the East and Northeast territory, with headquarters in New York. **Leonard P. Bourgeois**, who has been with the company 22 years, has been made sales manager for the Midwest territory, with headquarters in Green Bay. **Richard E. Jansing** has been promoted to sales manager for the Southern, Western and Canadian territories, with headquarters at Green Bay. He has been with the company for 10 years. Hudson Sharp also revealed plans for a 4,200-sq.-ft. addition to the present plant housing its engineering department.

Robert E. Hilbrant has been appointed director of marketing for the Toilet Articles Div. of **Colgate-Palmolive Co.**, New York. Mr. Hilbrant has been with the Colgate organization 33 years.

James F. Baird, Jr., has joined **American Viscose Corp.'s** Film Div., Philadelphia, as staff assistant in the market development department of the Film Div.

Bjorksten Research Laboratories for Industry, Inc., Madison, Wis., has officially opened its new Texas laboratory. Located at 2405 Norfolk St., Houston, this laboratory will conduct sponsored industrial research for companies located in the Southwest. **Luther L. Yaeger**, company vice president, will be in charge.

Roger Hefty has been named quality control supervisor for **Rap-In-Wax Paper Co.**, Minneapolis.

L. Sonneborn Sons, Inc., has announced expansion of its wax plant at

Top Sales Appeal—Low Cost

FLEX ACETATE CONTAINERS . . .

. . . are quality controlled in every manufacturing step to provide a smart economical package.

- Containers exclusively engineered so closure goes on righ . . . stays on tight. Take either snap caps or threaded metal closures.
- Full range of diameters.
- Any length available.
- Available plain or decorated.
- Special designs for unusual applications.

Write today for free samples.

Flex Dept. MP
PLASTIC CONTAINERS
PRODUCTS CORPORATION
231 MEADOW ROAD (RT. 17) RUTHERFORD, NEW JERSEY

WOW! A Glue with a Grip — not a gripe!

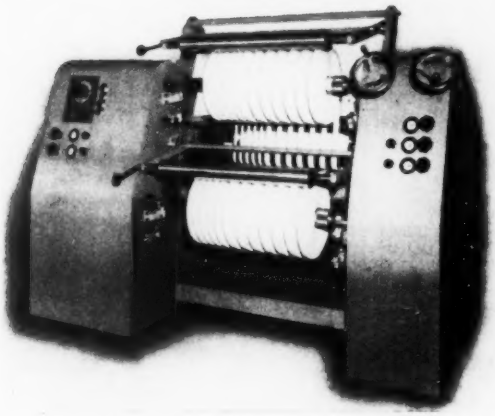
That's right. Findley adhesives have a way of getting results — because at Findley's we try a little longer; we worry a little more; we work a little harder. "Good enough" is never good enough. If you are using adhesives for packaging or paper converting, let us prove that here *is* an adhesive with a grip, but not with a gripe! Let our specialists show you how to...

PUT "WOW" IN YOUR PRODUCTION!
with

Findley's INDUSTRIAL ADHESIVES exclusively

Dept. M Milwaukee 45, Wisconsin

TIME PROVED FOR VERSATILITY . . .



MANUFACTURERS OF:
SLITTERS, WINDERS,
CONSTANT TENSION UNWINDERS,
KNIVES, LEVERS, SLEEVES
SPECIAL CONVERTING EQUIPMENT DESIGNED TO MEET YOUR PRODUCTION PROBLEMS

Dusenbery
CONVERTING EQUIPMENT

DUSENBERY

Slitter & Rewinder

MODEL 635

for FILM, FOIL, TAPE, PAPER

- **SHEAR CUT**
- **BURST CUT**
- **RAZOR BLADE**
- **SCORE CUT ***

In slitting plastic film, laminated foil, tape, glass cloth and paper, the model 635 utilizes the latest techniques and developments in the slitting and rewinding field.

The dual differential rewind, enables webs to be slit into four different widths of tape with individual tension controls for each width being rewound. The differential rewind principle produces high quality rewound rolls despite out of caliper mill rolls and materials, by allowing each rewound roll to slip with respect to its neighboring rolls and be wound up under its own controlled tension, thus reducing rejects and resulting in more economical production.

Change over from shear cut to razor blade or to burst, takes only a matter of minutes, giving complete versatility of slitting methods for handling a wide range of materials.

All tension controls on the unwind and rewind are air operated with gauges and regulators provided, to permit determination of optimum running conditions for a given material and to enable workers to repeat these settings without guess work. John Dusenbery Co., Inc., 275 Grove Ave., Verona, N. J., Tel: CEnter 9-3900.

On special applications score cut can be provided.

Precision ink transfer and accurate plate rolls are the heart of your press. Fine rolls make the difference between ordinary press work and high quality.

Fine Flexographic Printing begins with

PAMARCO

Pamarco Custom-Cut Steel Gears, made in our own plant, insure accurate register. Specify them when ordering plate rolls.

INTEGRAL FLEXOGRAPHIC PLATE CYLINDERS

—for higher press speeds, closer printing tolerances, finer Flexographic printing

No-flex Plate Rolls are tubular for minimum weight, yet *integral* in construction for maximum rigidity. All surfaces are ground to guarantee closest tolerances on diameters and concentricity . . . assuring true "kiss" impresions. Available with either steel or aluminum body.

Preventive Maintenance Program Saves You Money . . . Check now on this Exclusive Pamarco Service!

Complete Roll Service . . . All Work Performed in the Modern Pamarco Plants

- MICRO-LOK DEMOUNTABLE PLATE CYLINDERS
- CHROME PLATING
- ROTOGRAVURE BASE CYLINDERS
- COPPER PLATING & POLISHING
- MACHINE-ENGRAVED PRINT ROLLS
- ENGRAVED EMBOSSING ROLLS
- SUPERFINISHING & SAND BLASTING

PAMARCO

Paper Machinery & Research • Inc

1014 OAK STREET, ROSELLE, N. J.

Manufacturers also of Rotogravure Base Cylinders and Rolls for General Industrial Applications

NEW *Deluxe* MODEL 24-100

LECTROMATIC

POLYETHYLENE BAG-MAKER AND SHEETER

Produces Plastic Bags and Sheets faster, easier at less cost!

Speedily **MAKES Polyethylene BAGS**

UP TO 100" LONG
UP TO 24" WIDE

Automatically measures, cuts and seals one end. Also makes side weld seals and ventilating perforations.

Bags are speedily measured and cut from rolls of tubular Polyethylene, then securely sealed at one end, all in one operation. Use up to 10 mil. tubular, or up to 5 mil. gusseted stock. Skirt size adjustable. Convenient dial controls simplify operation. Accessories available for making side weld seals and perforations.

•

Speedily **MAKES SHEETS**

UP TO 100" LONG
UP TO 24" WIDE

Automatically measures, cuts and dispenses sheets from rolls of Saran, Cellophane, Mylar, foil, paper, etc.

Produces flat sheets from economical roll stock, in any desired length up to 100". No need to maintain large stocks of assorted sizes. Make up bags and sheets in sizes and quantities as you need them.

Standard MODEL S-1000 Also Available

Increase bag and sheet making efficiency. Eliminate huge inventories. Speed production, save labor, cut costs.

Send for Details Now!

LectrOmatic Devices, Inc.

3349 W. Addison St., Chicago 18, Illinois

Plants and people

Petrolia, Pa., to include facilities for the manufacture of oxidized microcrystalline-type waxes in addition to the microcrystalline waxes already manufactured there. Separate slabbing equipment will be included in the new plant to prevent the mild odor of the oxidized waxes from contaminating other waxes used in food packaging.

National Adhesives, division of **National Starch Products, Inc.**, New York, has announced the consolidation of its development and technical service departments. The new Technical Development Div. will be based at the Plainfield, N. J., laboratories. **Ralph McGaffin** will be manager. **William Sederlund** has been appointed manager, pack-

McGaffin Sederlund Gold

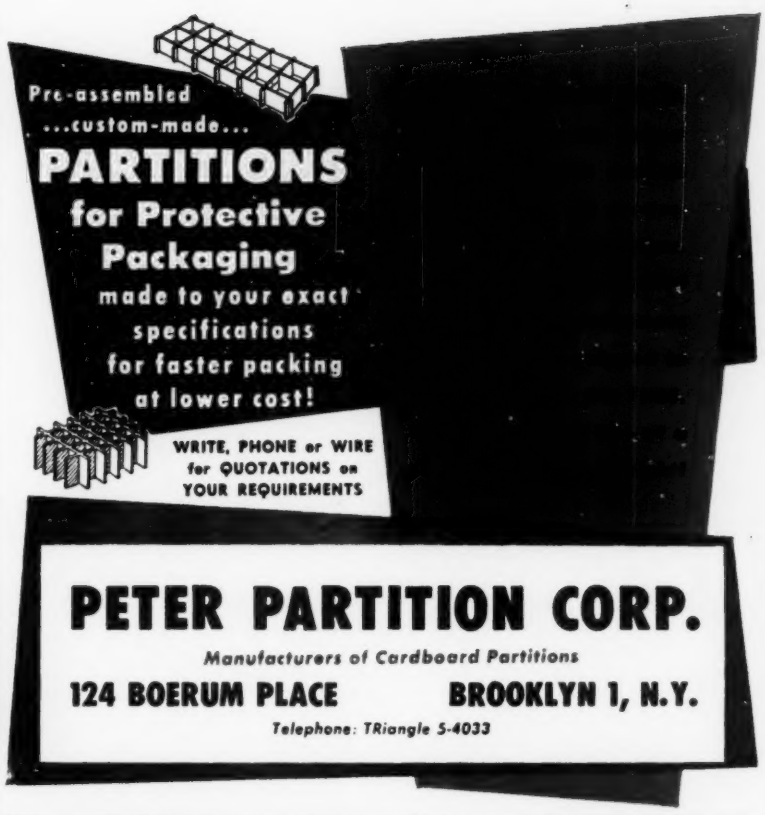
aging adhesives, technical development, and will be assisted by **Carl Witzmann**, who will have primary responsibility for resin emulsions and hot-melt products; **Richard Weidener** will be primarily responsible for vegetable-based adhesives, dry dextrins and extended resins. **Jules Sirota** has assumed responsibility for the investigation of longer-range problems and projects. **Chris Fazioli** has been named Midwest manager for adhesives technical development, with headquarters in Chicago. **Sam Gold** has been appointed manager of a new group for technical market development, with headquarters at Plainfield. He will be assisted by **William Blake** as supervisor for the Eastern division, **Robert Pett** for the Midwest and **Joe Ducharme** for the West Coast. **Paul Weitz** has been appointed administrative assistant for the group.

Thomson-Leeds Co., Inc., New York, has appointed **Charles H. Crist** creative art director. Mr. Crist formerly was art director of Advertising Arts Corp. and of Copeland Displays, Inc.

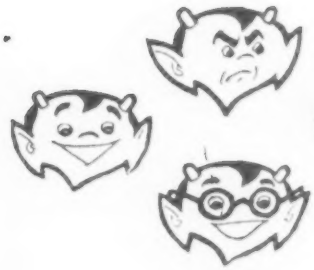
Hercules Powder Co., Wilmington, Del., will construct facilities to produce 10,000 tons per year of urea at its Hercules, Calif., plant. Completion of the new facilities is expected by late next year.

Completion of a new printing-ink plant in Kalamazoo, Mich., has been announced by **Sinclair & Valentine Co.**, New York. Modern equipment installed

[*Continued on page 204*]



CUT Compacting COT!
ELIZABETH
Punches and Dies for Rotary presses
Tungsten Carbide Insert Type Shown
Available in
• TOOL STEEL for normal use
• STAINLESS STEEL for corrosive use
• TUNGSTEN CARBIDE (Insert Type) for abrasive use
Specialization means greater savings to you. All design factors are fully considered—the speed of operation . . . type of press . . proper die clearance . . . punch and die materials and type of material being compacted.
For prompt service with know-how you can depend on . . . Call—
Elizabeth Carbide Die Company, Inc.
5423 Smithfield St., (Boston) McKeesport, Pa.
Telephone: ORchard 8-7735



IMPACT! adds sales punch!

IMPULSE! sparks point-of-purchase buying!

IMPROVEMENT! brings you the newest in glass!

The Hazel-Atlas "Imps" say—

"lotions, creams, and fragrances of every description

...sell better in

Whether you cater to Milady's beauty or Mr.'s whiskers, make ethical drugs or proprietary pharmaceuticals, the efforts of the three Hazel-Atlas "Imps" will benefit your product. It will get more sales *imp*act and produce more *imp*ulse sales in beautiful H-A packages.

In crystal-clear flint, beautiful amber and pure white opal, H-A containers are imagination in glass—and practical, too. At domestic prices, they add the glamorous prestige of more expensive imports to your men's and women's cosmetics, give professional dignity to your ethical and proprietary pharmaceuticals. And to save you time and expense, distinctive H-A Deco-fired Labels can be

—powders, tablets, and healing prescriptions

H-A glass packages!"

economically applied in permanent colors at the time of manufacture.

Rigid quality-controls keep your H-A containers uniform in size, shape, clarity and color. They perform efficiently on the filling line and display your product at its best. You are sure of fast, dependable delivery during sales peaks and emergencies; served by H-A's nationwide network of glass plants and warehouses. *Private Mold* and *Stock* containers available. Ask your nearest H-A representative or write today.

...glamour in glass!

HAZEL-ATLAS GLASS

division of **CONTINENTAL CAN COMPANY**

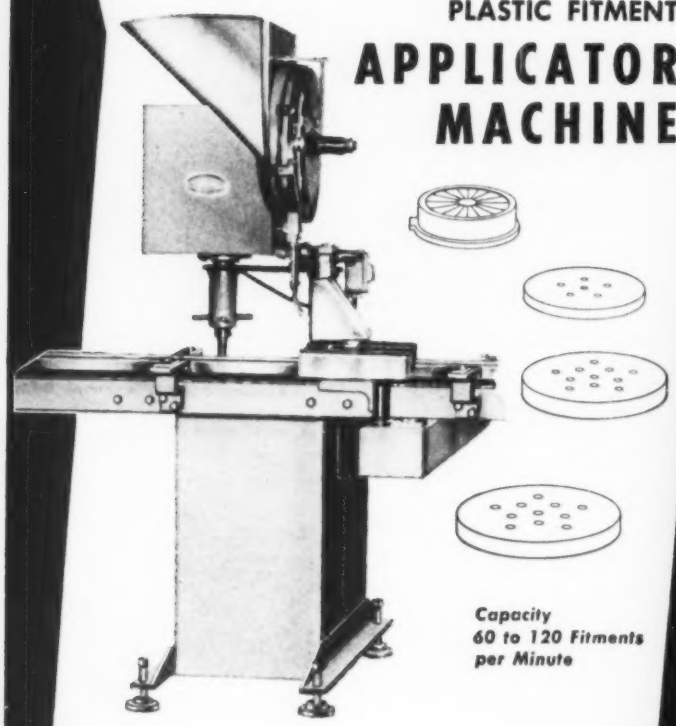
Wheeling, West Virginia

Tops them all

• A MODEL FOR EVERY PURPOSE
• A SPEED FOR EVERY NEED

RESINA
CAPPERS

PLASTIC FITMENT
APPLICATOR MACHINE



Capacity
60 to 120 Fitments
per Minute

Operates with or without Screw Capper. Selects and applies varied sizes . . . also solid type fitments conventional in drug and pharmaceutical packaging. Remarkably simple and efficient to operate . . . at low, LOW maintenance cost.

AND SPECIAL MACHINERY
Descriptive Literature on Request

RESINA
AUTOMATIC MACHINERY CO., INC.
572 Smith Street Brooklyn 31, N. Y.
Agents in Principal Cities throughout United States and Canada.

Plants and people

[*Continued from page 201*]

in the new plant includes Pony mixers, three-roll mills, Lightning mixers and Morehouse mills. **Dan J. Math** will direct the new operation, which will service the expanding Northern Michigan market.

Melvin Best Associates, industrial design firm of Pasadena, Calif., recently became incorporated. Officers of the new corporation are: **Melvin Best**, president; **Robert K. Fujioka**, vice president; **James M. Powell**, vice president client relations, and C. W. **Whitston**, secretary-treasurer.

George H. Watkins, formerly vice president in charge of development, University of Chicago, has joined the management group of **Container Corp. of America**, Chicago. He will be recommended for election as a vice president and will be concerned with foreign operations, design, advertising and public relations.

Watkins

Appointed project managers in the marketing department are **William L. Dempsey, Jr.**, formerly market development manager of the Eastern Div., and **Hamilton Allport, Jr.**, formerly with F. B. Redington Co. The former will work in Philadelphia and the latter in Chicago. **Philip Jensen** and **Lynn Dickson** have been appointed West Coast division sales representatives. **Fritz Lothman** has been made plant manger of the Oakland Calif., plant of Container Corp.'s subsidiary, **Sefton Fibre Can Co.** Mr. Lothman will transfer from Portland, Ore.

Cutter

Lewis M. Cutter has been appointed general manager of the company's Fort Worth, Tex., corrugated plant. Mr. Cutter joined the company in 1947 at Philadelphia.

Paramount Packaging Corp., Philadelphia, is doubling its present manufacturing and warehousing facilities on its eight-acre site at Chalfont, Pa.

David Brandmark has been appointed technical representative by **Claremont Pigment Dispersion Corp.**, Roslyn Heights, N. Y., to service gravure and flexographic printers in New York and New Jersey.

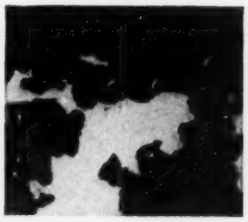
Brooks Foods, Inc., Collinsville, Ill., has appointed **James Doherty** manager of the Brooks Portion-Pak Sales Div. He will have charge of all sales of the

Creative papers from the mills of Mosinee

And now . . . paper that finally defies mold

Only Mosinee — with its specialized research and manufacturing facilities — could bring you a paper with lasting, built-in resistance to fungus growth. NeverMold — *the paper that finally defies mold* — is ideal for scores of uses — packaging, structural fabrication, insulation, wherever protection against mildew or rot is desired. It's especially valuable for products that are shipped or stored in humid or tropical climates or for applications dealing with direct soil contact. Remember the name — NeverMold — one of many creative papers developed and perfected by the mills of Mosinee.

NeverMold paper—Unaffected after *four-week* soil burial test.



Untreated paper—Subjected to same test, disintegrated within *one week.*

FIND OUT how NeverMold paper can serve you. Fill out and mail this coupon.

MOSINEE PAPER MILLS CO., Dept. MPA-10, Mosinee, Wis.
Please send complete information like an illustrated paper.

Name and Title _____

Firm Name _____

Address _____

City _____ Zone _____ State _____

Mosinee
PAPER MILLS COMPANY
MOSINEE, WISCONSIN

from match books to wallpaper . . .
from tea bags to tabulating cards . . .

Vitra-Tone

STEEL ENGRAVED CYLINDERS

Print Best! . . . . Last Longest!

More and more packaging men are discovering that Steel Engraved Cylinders give them the printed package they are looking for. Converters are impressed with the way they out-last all other printing techniques and the fact that every impression is as perfect as the first—even after 3 or 4 years of continuous use! Moreover when printing critical materials you can be confident of perfect results with chromeplated steel.

★ **Greater Print Clarity For More Perfect Packages**
★ **Faultless Color Registration at Speeds Up To 800 impressions Per Minute**
★ **Chrome Plated Steel Cylinders In Any Size Up To 36" Long**
★ **Patterned Glue Rollers That Assure Stronger Grip**

Make your next impression a permanent one—make it a steel engraved cylinder by Vitra-Tone. Write today for prices and details.

VITRA-TONE ENGRAVING CORP
345 Bergen Street, Brooklyn 17, N. Y.
Ulster 8-5712

Plants and people

½-oz. foil containers of Brooks Tangy Catsup, Barbecue Sauce and Peter Pan Catsup.

Franklin J. Cornwell has been appointed director of folding carton sales by **Alton Box Board Co.**, St. Louis. Mr. Cornwell previously was with Monsanto Chemical Co. and before that with Brown Shoe Co. He is a former president of the St. Louis Shoe Mfrs. Assn. and was also president of the Advertising Club of St. Louis.

Everett T. Mauger has been named head of market research for Alton. For the past 11 years he has been with Leonard D. Edie & Co., New York.

James R. Kennedy has been appointed vice president in charge of industrial relations for **Celanese Corp. of America**, New York. He succeeds **Edward R. Allan**, who has retired after 20 years' service with the company. Prior to his present appointment, Mr. Kennedy had been serving as assistant secretary of corporation. He has been with Celanese since 1944.

Kennedy

T. H. Mittendorf, executive vice president of **Hudson Pulp & Paper Corp.**, New York, retired recently after many years in the paper industry.

Dickens, Inc., design consultants, Chicago, have appointed **James T. Harting** as studio director and **Edward M. Wallner** as project director. Mr. Harting previously was with Display Corp., Milwaukee, and Mr. Wallner with Raymond Loewy Associates and American Can Co.

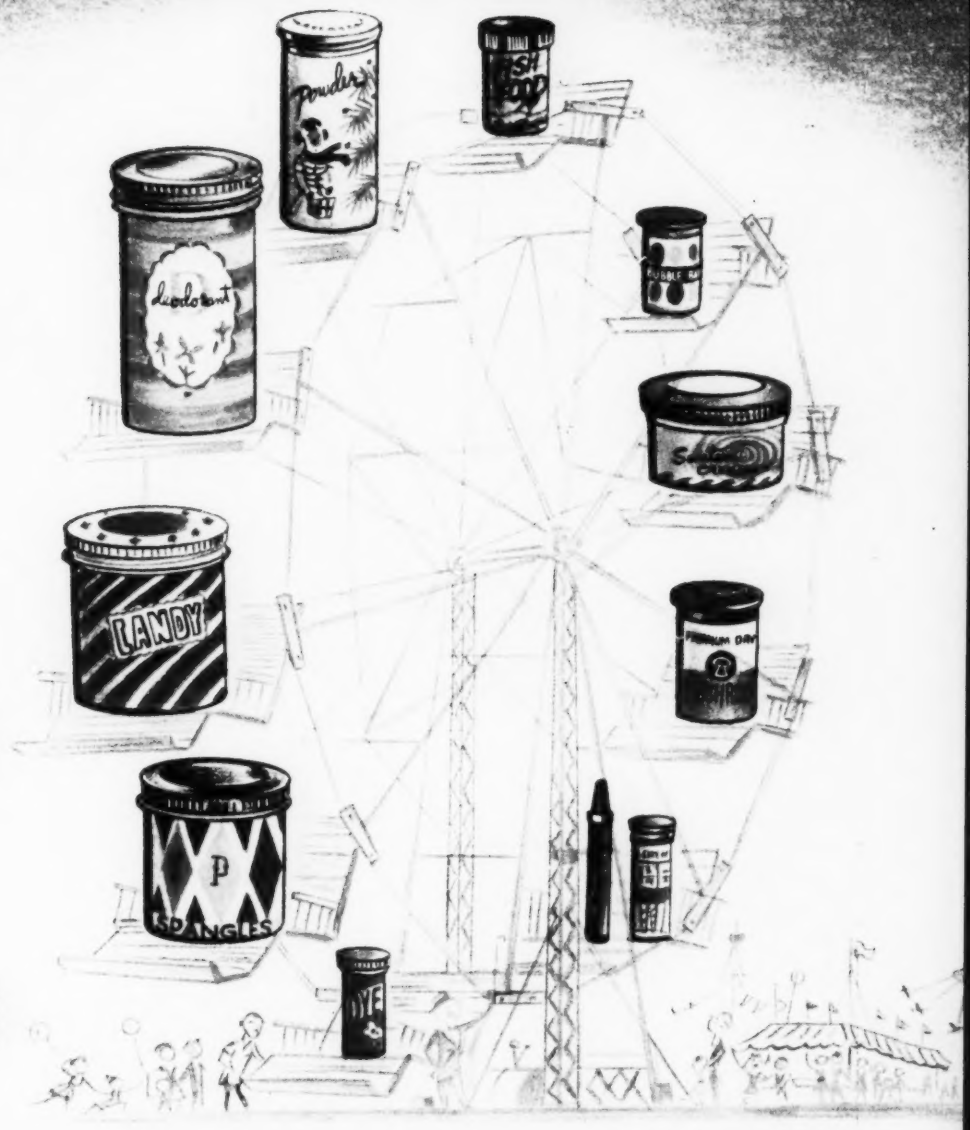
Stone

Alan Stone has been appointed to the newly created position of market research manager of **Stone Container Corp.**, Chicago. Mr. Stone previously had been coordinator in sales and purchasing for the Stone subsidiary, W. C. Ritchie & Co., and sales service manager for Stone Container's corrugated box division.

The Lynch Corp. of Anderson, Ind., has purchased the **Robbins Plastic Machinery Corp.**, Elkhart, Ind., which will be operated as a wholly owned subsidiary, retaining its present personnel. The purchase provides Lynch with facilities to make dies, fixtures and machinery used for manufacturing and handling extruded plastics and blown plastic film.

C. E. Carner, Jr., industrial lift-truck sales and service specialist for the past 12 years, has been appointed a national

Get a BIG SALES LIFT with



LOW PACKAGING COSTS!

You can give your product a new sales life with Clearsite plastic containers.

Cost is low because the chances are that among the wide variety of containers now being produced, there is one that will fit your need exactly—*without* mold costs.

Clearsite transparent plastic containers are shatter-proof—weigh about one-fifth as much as glass. Breakage and shipping costs are kept at a minimum.

Crystal-clear or jewel-like colors—Clearsite plastic containers are easily multi-color printed with your trademark or label.

Write for Free Samples and Descriptive Literature to Department A.

Clearsite

Clearsite Plastic Vials and Jars *that Sell!*

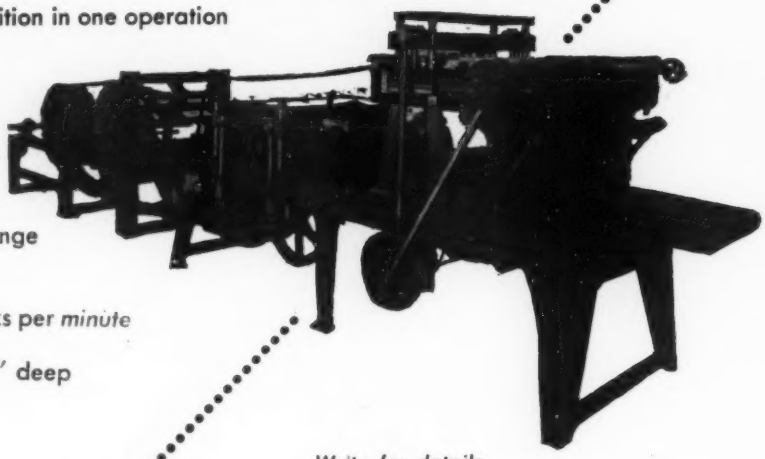
CELLUPLASTIC CORPORATION

SALES AND EXECUTIVE OFFICES • BELMAR, NEW JERSEY

Eliminate costly hand-made partitions

Your production costs can be slashed with the Inman automatic adjustable partition machine

- From roll stock to finished partition in one operation
- Only one operator required
- Clean cut, accurate and uniformly made partitions
- Machine fully equipped and easily adjustable for a wide range of sizes
- Production of 100 or more tucks per *minute*
- Will handle partitions up to 7" deep
- Production proven



Write for details

INMAN *Manufacturing Co., Inc.* AMSTERDAM, N.Y.

---

for hundreds of packaging applications use...

AVERY PRESSURE SENSITIVE **LABELS**

Your products and your packages *make their own sales pitch* with Avery pressure-sensitive labels. Important or exclusive features, "use" information, package contents, guarantees, trademarks, nameplates and approval seals, instructions, merchandising aids and pricing are but a few of the many ways you can use Avery labels to *build sales!*

With Avery electric dispensers labeling is as much as 5 times faster than with ordinary methods!

Avery labels are self-adhesive... unaffected by heat or humidity and stay fresh-looking indefinitely. Mail the coupon today for complete information.

AVERY ADHESIVE LABEL CORP., Custom Div. 127A
117 Liberty St., New York 6 • 608 S. Dearborn St., Chicago 5 • 1616 S. California Ave., Monrovia, Calif. • In Canada, 207 Queen's Quay West, Toronto 1, Ontario • Offices in Other Principal Cities

☐ More information, please... and free samples.
☐ Please have the Avery man call.

NAME_____
COMPANY_____
ADDRESS_____
CITY_____ ZONE____ STATE_____
OUR BUSINESS IS:_____

---

for **PENNIES**
CLAREMONT FLOCK
an **OUNCE**
adds a **"POUND**
PACKAGE
of **PUNCH"**

Claremont Flock is lush as plush. Looks like Velvet. Feels like Suede. Converted by the Paper Trade. Cost is Low . . Packages Glow . . Sales Go. See Samples? Wonderful! Will Do—Rush!

CLAREMONT WASTE MANUFACTURING COMPANY
The Country's Largest Manufacturer of FLOCK
CLAREMONT, NEW HAMPSHIRE

Plants and people

accounts sales manager for the **Yale Materials Handling Div.** of the **Yale & Towne Mfg. Co.**, Philadelphia. Mr. Carner's headquarters will be in Chicago.

Carl K. Wolff has been appointed Western regional sales manager of **W. S. Shamban & Co.**, Culver City, Calif. Mr. Wolff formerly was with Federal-Mogul-Bower Bearings, Inc.

O'Neill

Paul R. O'Neill, for the past 10 years chief ink chemist for Shellmar Products Co., has joined the Flexo-Roto Div. of the **Howard Flint Ink Co.**, Detroit, Mich. Mr. O'Neill's headquarters will be established at the Flint plant in Broadview, Chicago.

National Metal Edge Box Co. recently opened a new $1,500,000 plant with 114,000 sq. ft. of operating space in Barrington, N.J. The new one-story, air-conditioned building, which houses sales and executive offices and manufacturing facilities, triples the capacity of the company's old plant in Philadelphia. Daylight lighting has been installed throughout for greater precision in judging colors of the printed die-cut kraft board the company sells.

Riegel Paper Corp. has opened a new sales office in Boston at 131 State St. **Robert O'Neill** and **Frederick H. Mundy**, who have been covering the New England territory out of the New York office, will make their headquarters there.

Claude M. Stitt has been appointed manager of the newly created resources development department of **Fibreboard Paper Products Corp.**, San Francisco. Mr. Stitt will headquarter temporarily at the company's San Joaquin plant, Antioch, Calif.

Marathon Corp., Menasha, Wis., has announced the appointments of **William F. Snyder** as sales promotion manager for cheese packaging in the home office; **David K. Wilson** as Western regional sales supervisor, with headquarters in Los Angeles, and **Ray B. Lewis** as Chicago sales supervisor.

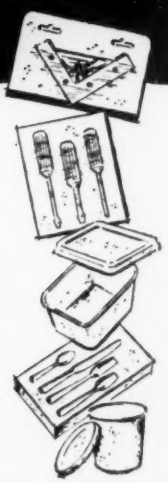
Manton Bros., Ltd., Toronto, Canada, has been appointed exclusive Canadian distributor for the products of **Mosstype Corp.**, Waldwick, N.J. Manton also has branches in Winnipeg and Vancouver.

Bostitch, Inc., has completed moving to its new $6 million factory and headquarters in East Greenwich, R.I. Said to be the largest one-story plant in New

[*Continued on page 212*]

VacForm 88 occupies only 12½ sq. ft. of floor space—can be the most productive area in your plant.

Add markets and profits through packaging flexibility with **VacForm** vacuum forming machines

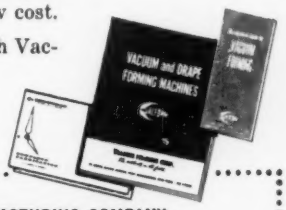


- **wider range of shapes, sizes and plastic materials with which you can work**
- **lower die and machine costs**
- **no specialized technical experience needed**

VacForm vacuum forming machines produce most any shape packaging: "skin" and "blister" protective and pilfer-proof packages ...skin-tight wraps and hard-to-package items ...rigid transparent cups and containers, both reusable and disposable.

VacForm initial and operating costs are a fraction of those for other forming methods. Change-over time is cut to a minimum. And you can produce packages in short runs at low cost.

Investigate the many ways in which VacForm can add markets and profits through packaging flexibility.



Write for new informative booklets.

VACFORM

PLASTIC FORMING MACHINERY

EMHART MANUFACTURING CO.

333 Homestead Avenue, Hartford 2, Connecticut

EMHART MANUFACTURING COMPANY
333 Homestead Avenue
Hartford 2, Connecticut

Send us informative literature of VacForm and VacTrim applications, advantages and operation.

Name_____ Title_____

Company_____

Street_____

City_____ Zone____ State_____

Principal Business_____

MP-1057

ARM & HAMMER BRAND
1/2 BAKING SODA
10 GIANT
Tide
THE WASHDAY MIRACLE
FOR EASY PRICE MARKING
FOLLOW DIRECTIONS ON OPPOSITE SIDE
313
Yellow
OASIS FILTER CIGARETTES
10M
20's
OASIS
FILTER CIGARETTES
"WHEREVER PARTICULAR PEOPLE CONGREGATE"
PALL MALL
FAMOUS CIGARETTES
OUTSTANDING-
AND THEY ARE MILD!
CAMEL
CIGARETTES
60 CTNS.
12 M.
12 Packages 2 4/5 ozs.
New PURINA DOG CHOW
WOODBURY
BEAUTY
DEODORANT
SOAP
MORTON
IODIZED
SALT
WHEN IT RAINS IT POURS
Quaker
418
QUICK GRITS
THE QUAKER OATS COMPANY, CHICAGO, U.S.A.
WOODBURY
BEAUTY
DEODORANT
SOAP
12M
20's
CHESTERFIELD
KING
CIGARETTES
BITE SIZE
24-6oz. PKGS.
Rice
CHEX
RALSTON PURINA COMPANY
KING SIZE
12M
20's
L&M
KING SIZE
L.S./M.F.T.
LUCKY STRIKE
"IT'S TOASTED"
now pink
dreft
24 REGULAR
20's
ING

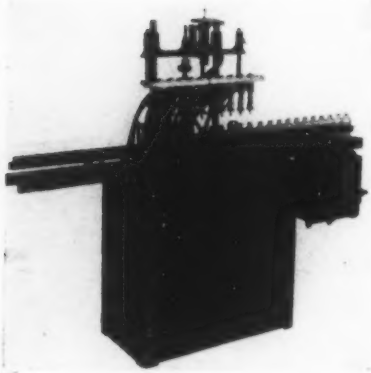
Leading brands of packaged goods are protected by Mead container board

Lots of good things come in small packages, but they travel safely to their destinations in large containers made of good container board ... the kind The Mead Corporation makes.

Mead virgin kraft liners and Chestnut semi-chem corrugating medium have long been recognized for their superior quality — quality that has come about through years of intensive research on better container materials and testing methods. For example, Mead developed the first method of predicting at the mill level the results that can be expected when a given roll of corrugating material is fabricated. Today this technique is standard practice through the industry.

THE MEAD CORPORATION Sales Offices: Mead Board Sales, Inc.
Cincinnati • Chicago • Detroit • Boston • Newark, N.J. • Lynchburg, Va.

MEAD
container board



NEW

FASTER FILLING

FOAMLESS

DRIPLESS

FASTEST CHANGEOVER

PERL FILLING MACHINES

FOR VACUUM, GRAVITY OR PRESSURE

ALSO AVAILABLE WITH

ELECTRO PNEUMATIC CONTROLS

New design model COS-K, illustrated, operates by vacuum, in a range of sizes and filling speeds from 20 to 100 bottles per minute and capacities up to 1 gallon. Other models up to 5 gallons available. No foot pedals, no hand levers, just a touch of a button! Even the most unskilled operator immediately attains full production speed.

Write for Circular P-3

PERL MACHINE MFG. CO., INC.

68 Jay Street, Brooklyn 1, N. Y., MAin 4-0165

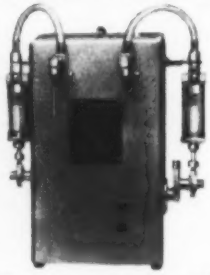
NEW!

Filamatic

Portable

LIQUID FILLER

Fills Drams to Gals. with 1% Accuracy!



- Positive displacement piston filler. Eliminates wasteful overfilling—protects against underfilling.
- Fills directly from drum or container — simply drop inlet hose into liquid.
- Electronic speed control.
- Handles oils, extracts, aqueous solutions, and other free flowing or semi-viscous fluids.
- Low cost—Models from $215.

Now — a low cost, compact liquid filling machine that takes up little more space than a typewriter. Unexcelled for short-run filling. Conveyor attachment for completely automatic filling — up to 120 containers per minute. Easy to clean. Set up for use in minutes. Over 2000 in use.

CONVEYOR ATTACHMENT: Adapts the Filamatic Portable for completely automatic filling. Multiple fills 2, 4 or 6 at a time—up to 120 per minute.

Write today for Bulletin MP for the complete Filamatic story.

NATIONAL INSTRUMENT CO.

2701 Rockwood Ave. • Baltimore 15, Md.

Plants and people

(Continued from page 209)

England, the new plant measures 440 by 960 ft. on an 84-acre site and is planned so that it can be expanded in three directions to provide for future growth.

Philip S. Sayres, formerly executive vice president and a director of Bristol-Myers Co., has been elected a vice president in the executive department of **American Can Co.**, New York.

Sayres

Technical assistance agreements providing for an exchange of technical data and personnel have been made by American Can Co. with manufacturers in 11 countries in the past year. To date about 25 foreign can-company representatives have visited Canco and currently 13 Japanese are working in Canco plants. Agreements have been made with companies in England, France, Denmark, Holland, Germany, Australia, New Zealand, Japan, Mexico, Venezuela and Brazil.

Canco's second complete plant for the processing of tinplate from coils was dedicated recently at Oakland, Calif. The new plant is part of a $27-million construction and equipment program aimed at establishing coil-processing facilities in major U. S. can-making centers.

Thatcher Glass Mfg. Co., Inc., has leased executive offices at 375 Park Ave., New York. Thatcher plans to move its executive personnel to New York from Elmira, N.Y., next January and also to consolidate its present New York sales offices at the new address.

William K. West has been promoted to operations manager of the Memphis, Tenn., plant of **Dixie Wax Paper Co.**, Dallas, Tex. Mr. West, former assistant operations manager, succeeds **Vernon Duke**, who has been transferred to Burlingame, Calif., as plant manager of Dixie of California.

John S. Light has joined **National Research Corp.**, Cambridge, Mass., as director of the mechanical engineering department.

Edward C. Mergenthaler has been appointed to the sales staff of the display division of **Gibraltar Corrugated Paper Co., Inc.**, Jersey City, N.J.

Howard L. Biddle has been named assistant to the vice president in charge of sales for **Fonda Container Corp.**, a division of **Standard Packaging Corp.** of New York. **M. A. Gibbons** has been

IPI

complete

FLEXO INK SERVICE

FOR PACKAGE PRINTERS COAST TO COAST!

complete **LINE OF FLEXO INKS**

IPI continues to pace the package printing ink field with such great new flexo inks as Flexogem and Flexotuf multi-purpose flexo inks, special heat-resistant inks and fast-drying water-base inks such as Aqualox. We invite you to try them.

complete **NATION-WIDE DISTRIBUTION**

New IPI flexo inks are available in printing centers from coast to coast—wherever you find an IPI branch office and service station. Wherever you are located, you will always find IPI flexo inks readily available.

complete **TESTING FACILITIES**

IPI flexo inks are always thoroughly tested on the press before they are released—in Interchemical's central laboratory headquarters, in IPI labs and factories. Tests for color uniformity, performance standards, toughness and durability assure uniform quality in every batch.

complete **SERVICE FACILITIES**

IPI branches and service stations are staffed by local technicians who have grown up in your vicinity and who know local printing problems. When you need flexo inks, turn to the people who know packaging inks best—IPI ink men. Priced competitively, IPI inks give best results. Try them today.

IPI, IC, Flexogem, Flexotuf and Aqualox are trademarks of Interchemical Corporation

IPI

INTERCHEMICAL PRINTING INK

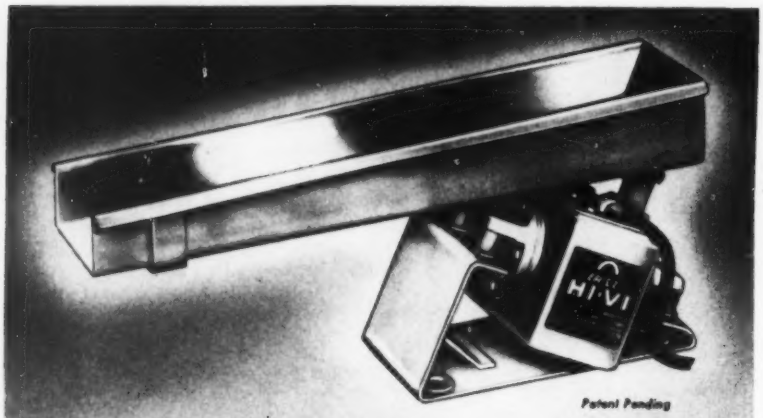
CORPORATION DIVISION

EXECUTIVE OFFICES: 67 W. 44th ST., NEW YORK 36, N. Y.

IC

NEW HI-VI FEEDER BY ERIEZ HAS THE FEATURES YOU'VE ALWAYS WANTED

REVOLUTIONARY NEW CONCEPTS in mechanical design and construction materials produced this outstanding new feeder. Based on results of field research, these new units incorporate many of the features asked for by people who use feeders. Available in a wide range of sizes to meet all needs, Eriez feeders give you higher operating efficiency over broader operating ranges—*let you move more materials faster!*



Patent Pending

- **Greater capacity than comparable size units**
- **Totally enclosed drive element**
- **Rust-proof long-life spring**
- **More uniform feed**
- **No rectifier needed**

NO RECTIFIER NEEDED! Just plug or wire in these new feeders; they operate at 3600 CPM directly off an AC line. No rectifier is needed, as a lifetime-powered magnet replaces this element by providing an automatic, inherent magnetic rectification system which is simple, trouble-free and highly efficient. All energy (a two-way push-pull vibrating action) goes for productive performance.

TOTALLY-ENCLOSED DRIVE ELEMENT: can't be damaged or lose efficiency due to contamination by moisture or foreign materials.

DISC-SHAPED GLASS FIBER SPRINGS: rust-proof, they're not subject to corrosion, "packing", fatigue or other critical characteristics of steel leaf spring systems.

GREATER OUTPUT CAPACITY: more work output than any other feeders of comparable physical size.

OTHER FEATURES INCLUDE:

Almost silent operation • Rectangular-shaped tray bottom for more uniform feed • Larger, more powerful Alnico V magnetic drive element • Compact base for tandem, side-by-side or back-to-back installations • Less sensitive to voltage change • No "air gap" adjustment needed • Units are lightweight, compact, easily installed • No sliding or rotating parts to wear • Low power consumption, maintenance and operating costs

An Eriez Feeder provides accurate, controlled feed of bulk materials variable from ounces to tons per hour — *automatically*. Works well with all types of materials: hot, dry, dusty, lumpy, abrasive, etc. Conveys, spreads, agitates, separates, blends, dries, cools and mixes—economically and in a minimum of space.

Only Eriez Feeders have HI-VI drive systems — powered by an Alnico V magnet that's permanent . . . will never wear out!

ERIEZ HI-POWR MAGNETIC SEPARATORS

ERIEZ HI-VI VIBRATORY EQUIPMENT

Interesting new booklet tells all about the Eriez line. For your free copy, write to Eriez Mfg. Co. 120 x Magnet Dr., Erie, Pa.

Plants and people

appointed as representative in the San Francisco Bay area for **Modern Packages, Inc.**, Los Angeles, another company division.

Lamson Corp., Syracuse, N.Y., has appointed **Robert C. Long** as New York regional manager. He will be responsible for the sales and engineering in the New York, Philadelphia and Baltimore districts.

Newark Paraffine Paper Co. and its affiliates, **Protective Packaging Corp.** and **Newark Foils, Inc.**, have moved to 70 Blanchard St., Newark 5, N.J.

William C. Bedoit, Jr., has been made manager of market development for the commercial development division of **Jefferson Chemical Co.**, Houston, Tex. Dr. Bedoit will report to **John J. Glover**, manager of the division.

Gaylord Container Corp., Div. of **Crown Zellerbach Corp.**, St. Louis, Mo., has appointed **William F. Worthington** assistant sales manager for the Chicago area.

Lester R. Moskowitz, formerly chief development engineer of the Eriez Mfg. Co., Erie, Pa., has announced formation of an industrial technical consulting organization, **L. R. Moskowitz & Associates**, 3068 W. 25 St., Erie, Pa.

Earl Warren Tinker, executive secretary of the **American Pulp & Paper Assn.**, died on Aug. 31. Mr. Tinker, who had been vacationing in the Black Hills of South Dakota, died of peritonitis. He had served as association secretary for 18 years. Last February he had announced his retirement, which was to take place this month. In 1944 Mr. Tinker was instrumental in organizing the Pulp and Paper Council to the U. S. Dept. of Commerce. He had served as U. S. pulp and paper representative to the United Nations Latin America meeting in Buenos Aires in 1954. Mr. Tinker had been assistant chief of the U. S. Forest Service and was the first head of the Div. of State and Private Forestry. He was honorary vice president of the American Forestry Assn., an honorary member of the American Pulp and Paper Mill Superintendents Assn., a director of the American Trade Assn. Executives and a member of the Conservation Committee of the National Assn. of Manufacturers.

Charles E. Deger, general regional merchandising manager for **Owens-Illinois Glass Co.**, Toledo, Ohio, died on Aug. 23 after an illness of six months. Mr. Deger, widely known in the food and beverage industries, joined Owens-Illinois in 1942.

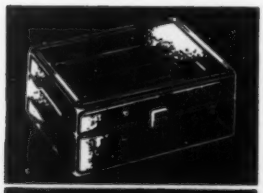
Harkin

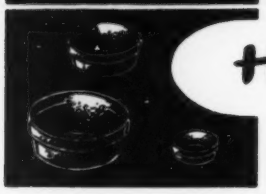
Plastic Molded Boxes Stop Buyers in their Tracks...

Manufacturers, importers and jobbers from all over the nation report Record Sales chalked up by these dramatic plastic boxes.

SUNBURST—7⅛" x 4¾" x 2⅛"
All Gold, hinged box with attractive sunburst design

ORCHID—9⅝" x 7⅛" x 1⅛"
Gold orchid on clear or pearlized cover





HUNDREDS of Stock Plastic Boxes to choose from . . . MOST SIZES

NO MOLD CHARGE for Special Boxes. Custom-made boxes made to meet your specific requirements without mold charges. Send us your product for a model, at no obligation.

PRICED LOWER THAN MOST OTHER BOXES. Because of Harkin mass production and know-how as box specialists.

STIMULATE YOUR PROMOTION. Give your sales program a new lease on life with these plastic molded boxes. They're re-usable. Their beauty puts your item in the gift category. The fact that your product is always visible and dust proof cuts handling damage to a minimum.

Harkin Affiliates, inc.

• *Call or write today for new illustrated brochure and price list. Dept. MP*

"MOLDING SPECIALISTS OF PLASTIC BOXES"

95 MADISON AVENUE • NEW YORK 16, N. Y. • MURRAY HILL 6-2415

"TWENTY YEARS OF EXPERIENCE IN THE CREATION OF SPECIAL PACKAGING"

POTDEVIN '111' HIGH SPEED CELLOPHANE BAG MACHINE

The "111" makes:

- Full lip pasted bags.
- Pasted flush-cut bags with thumb cut.
- Combination shirt bags with thumb cut.
- Heat seal and pasted bottom with shallow lip.
- Heat seal and pasted bottom with flush-cut (with thumb cut).

Range: 2" x 6½" up to 10½ x 16¼"

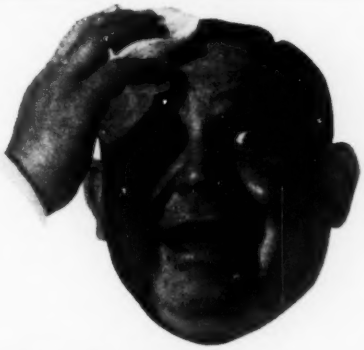
Write for further details

ESTABLISHED IN 1893 — POTDEVIN

POTDEVIN MACHINE CO.
244 North Street — Teterboro, New Jersey

Designers and manufacturers of equipment for Bag Making, Printing, Coating, Laminating, Gluing and Labeling

---



WOW! That's speed!

No matter what the end use — in packaging or paper converting, if it's speed you need, remember, — FINDLEY'S. New high speed resins and advanced techniques are producing outstanding adhesives that produce outstanding results — for you! For proof let our specialists fill you in with the details — and samples.

PUT "WOW" IN YOUR PRODUCTION!
with

Findley's — INDUSTRIAL ADHESIVES exclusively

Dept. M — **Milwaukee 45, Wisconsin**

For your information

Highlights of the 12th annual **National Hardware Show**, to be held at New York's Coliseum Oct. 14-18, will include significant increases in multiple packaging, pre-packaging and display packaging, together with the introduction of more new products than ever before and greater use of color in both products and packaging. Advance registrations for the event are reported to be running far in advance of any previous year. Registration requests should be addressed to the National Hardware Show, 331 Madison Ave., New York 17.

The Point-of-Purchase Advertising Institute's executive committee has appointed a new Trade Practices Committee as the first step in a broad program to implement the effectiveness of the voluntary Code of Ethical Trade Practices adopted last Fall. **William Melish Harris**, head of Wm. Melish Harris Associates and Eastern vice president of POPAI, is chairman of the new group.

An industry-wide safety program for the converters of flexible packaging products is being developed by the Industrial Relations Committee of the **National Flexible Packaging Assn.**, under the chairmanship of **John Grusenmeyer** of Continental Can Co.

The first recipient of a four-year scholarship in packaging at **Michigan State University** granted by **National Starch Products, Inc.** is **Robert R. Showerman** of Portland, Mich. He will receive $500 per year for each of four years of work in packaging at M.S.U. The scholarship program is to encourage young men graduating from high school, who otherwise might not be financially able, to enter the field of packaging engineering. The scholarship is offered by National Starch Products, Inc., through the auspices of the **Packaging Institute.**

The Package Designers Council and New York University's Graduate School of Business Administration are co-sponsoring a one-day conference to be held at NYU on Oct. 23. **Dr. Dudley Maynard Phelps** will discuss "The Role of Packaging in Integrated Marketing" and a panel session will be held on "How Marketing Is Applied to Packaging." Co-chairmen of the conference are **Dr. H. W. MacDowell**, associate professor of marketing at NYU, and **Robert I. Goldberg** of the PDC. For further information, write Dr. MacDowell at the NYU Graduate School of Business Administration, 90 Trinity Pl., New York 6.

The 6th Canadian National Packaging Exposition, scheduled for Nov. 5-7 at the C.N.E. Automotive Bldg., Toronto, will feature displays from Canada and the United States, as well as from Great Britain, France, Italy, Germany and Scandinavia. The 60,000 sq. ft. of floor space available will be occupied by 176 exhibitors. A highlight of the event will be the presentation by the **Packaging Assn. of Canada**, sponsor of the event, of the third Golden PAC Award to packaging's "Man (or Woman) of the Year." Presentation of the award will be made at the association's annual banquet, Nov. 5, at the King Edward Hotel. Registration forms and additional information on the exposition are available from the Packaging Assn. of Canada, 1 St. Clair Ave. W., Toronto.

Container Laboratories, Inc., is offering a new five-day training course at its Washington Division offices, designed to promote a comprehensive understanding of the important basic principles of contractor-Government relationships. Known as the Management Aspects of Government Packaging, it is to be conducted every other week on a continuing basis. Classes are limited to 12 persons to afford time for individual attention to specific problems. Complete information and descriptive literature on the course may be obtained from Container Laboratories, Inc., School of Packaging, 1519 Connecticut Ave., Washington 6, D. C.

A catalog of 118 technical reports in the field of packaging and materials handling in the collection of the Office of Technical Services, **U. S. Dept. of Commerce**, has been published. The catalog, **CTR-72 Packaging and Materials Handling, 1941-57**, is priced at 10 cents and may be ordered from OTS, U. S. Dept. of Commerce, Washington 25, D. C.

The Seventh TAPPI Corrugated Containers Conference will be held in Philadelphia, Oct. 23-24, Benjamin Franklin Hotel. First day of the event will be devoted to the presentation of eight papers, three on automatic finishing equipment for glued-lap containers and five on new developments of general interest. The second day will be given over to plant tours made in chartered buses to the **Connelly Container Corp.**, **Stone Container Corp.** and **Samuel M. Langston Co.**

The 1958 Plant Maintenance & Engineering Show will be held in Chicago for the first time in three years. The event is scheduled for Jan. 27-30 at the International Amphitheatre, with the annual **Plant Maintenance & Engineering Conference** set for the same week. Advance registration cards and hotel information may be obtained from the exposition management, **Clapp & Poliak, Inc.**, 341 Madison Ave., New York 17.

The latest in factory equipment will be on display in Britain at the **Sixth Factory Equipment Exhibition**, to be held at Earls Court, London, April 14-19, 1958. Theme of the event will be "Modern Factory Equipment—Britain Challenges the World." Equipment used in packaging and materials handling will be included in the exhibits.

A revised edition of **"The Canning Industry,"** a 44-page booklet describing the industry and the public service values of its productions, has been published by the **National Canners Assn.'s** Information Division. It is designed to implement the association's continuing and expanding program of increasing the acceptance and consumption of canned foods. For copies, write to the National Canners Assn., 1133 20 St., N.W., Washington 6, D. C.

The 1958 International Bakers' Exhibition will be held in the Munich Exhibition Grounds, Theresienhohe, Germany, May 15-26. Organized by the

What's doing

Oct. 14-16—**Sanitation Maintenance Show & Conference**, Navy Pier, Chicago.

Oct. 14-18—**Printing Industry of America, Inc.**, annual meeting, Hotel Morrison, Chicago.

Oct. 14-18—**12th National Hardware Show**, Coliseum, New York.

Oct. 17—**Society of Plastics Engineers**, regional technical conference on "Polyethylenes, Properties and Uses," Hotel Carter, Cleveland, Ohio.

Oct. 17-18—**Fibre Box Assn.**, annual meeting, Sheraton Park Hotel, Washington, D. C.

Oct. 17-20—**American Society of Industrial Designers**, design conference, Ojai Valley Inn, Ojai, Calif.

Oct. 23-24—**Seventh TAPPI Corrugated Containers Conference**, Benjamin Franklin Hotel, Philadelphia.

Oct. 28-30—**Packaging Institute**, 19th annual forum, Statler Hotel, New York.

Oct. 28-31—**Society of Industrial Packaging & Materials Handling Engineers**, National Industrial Packaging & Handling Exposition, Convention Hall, Atlantic City, N. J.

Nov. 5-7—**6th Canadian National Packaging Exposition**, Automotive Bldg., Toronto.

Nov. 8—**Canadian Mfrs. Paper Box Assn.**, Quarter Century Club, Toronto.

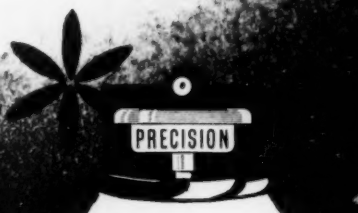
Nov. 11-13—**Grocery Mfrs. of America**, annual meeting, Waldorf Astoria, New York.

Nov. 11-14—**International Soft Drink Industry Exposition**, National Guard Armory, Washington, D. C.

AEROSOL

PAINTS

...ONE OF THE FASTEST GROWING MARKETS



*The right components must go into an aerosol container as well as paint. Top off your fine product with a Precision Valve to make it a laboratory-tested, market-tested and consumer-accepted item.

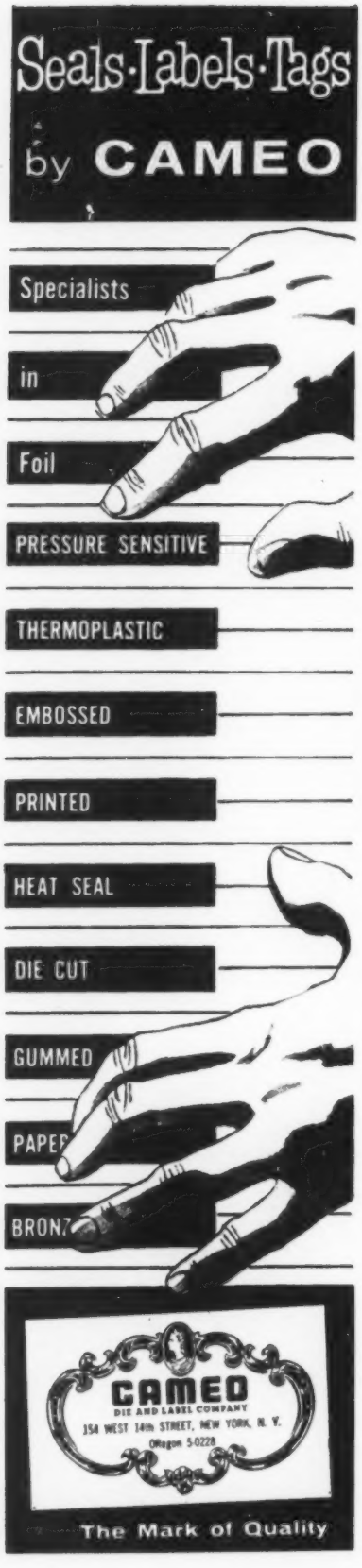
Precision topped aerosols assure you of your place in the ever expanding field of paints, lacquers, paint removers, enamels and thinners.

Combining the convenience and tidiness of aerosols with the nation's "do-it-yourself" devotees, spray paints for household tasks, hobbies, appliances, cars, garden tools etc., have a sure-fire sales appeal to the nation.

Precision Valve with a record of over 500,000,000 valves sold, KNOWN THROUGHOUT THE WORLD . . . invites you to contact its Laboratory or Engineering Staff to enable you to top off your product . . . to perform best.

PRECISION VALVE CORPORATION

700 NEPPERHAN AVENUE · YONKERS, NEW YORK



For your information

Verein fur Handwerks-Ausstellungen und Messen e.V., the event will feature a number of exhibitors from Austria, Denmark, Great Britain, the Netherlands, Switzerland and the United States, as well as from Germany.

A new book for the non-technical reader which presents the practical aspects of polyethylene, with particular emphasis on its applications, has just been published. Written by **Theodore O. J. Kresser** of Spencer Chemical Co. and titled "Polyethylene" (Reinhold Publishing Corp., 430 Park Ave., New York 22; $4.95), this is the first in a Plastics Applications Series to be made available by the publishers.

Although the 1958 **Packaging Machinery & Materials Exposition** is still five months away, 90% of the exhibit space has already been sold, according to **K. B. Hollidge**, chairman of the exposition committee of the **Packaging Machinery Mfrs. Institute**, sponsor of the event.

Three innovations are planned for the exposition, to be held in Atlantic City's Convention Hall on March 25-28. Several conference and rest areas will be located throughout the exposition floor, equipped with lounge chairs, drinking water, carpeted floors, etc., for the comfort of visitors. In addition, several information centers will be set up devoted exclusively to distributing specialized information, one dealing with facts on wax paper and the other dealing with information on flexible packages. The third feature is the establishment of special restaurant facilities in Convention Hall.

The second volume of **"The Freezing Preservation of Foods"** is now available. Titled **"The Freezing of Precooked and Prepared Foods"** (AVI Publishing Co., Inc., Westport, Conn.; $10, domestic; $11, foreign), this book rounds out the coverage of the field. Together with Vol. 1, **"The Freezing of Fresh Foods,"** this complete set covers the frozen-food industry from the principles of quick freezing and refrigeration to the freezing of pre-cooked specialty items and TV dinners. The authors are **Donald K. Tressler**, scientific director of the QM Food & Container Institute for the Armed Forces, and **Clifford F. Evers**, technical service director of Ac'cent-International Division.

The Institute of Paper Chemistry is microcarding all U. S. and Canadian patents pertaining to pulp and paper which are currently abstracted in the Bulletin of The Institute of Paper Chemistry (Library Notes). A brochure with sample microcard, subscription rates and other details can be obtained from the Editor, The Institute of Paper Chemistry, Appleton, Wis.

The basic principles of motivational research and psychological testing for determining the marketing effectiveness of packaging, advertising and other selling aids are set forth in a new book by **Louis Cheskin**, director of the Color Research Institute. Titled **"How to Predict What People Will Buy"** (Liveright Publishing Corp., 386 Fourth Ave., New York 16; $5), it is a practical handbook on the use of tested techniques that should prove of value to the business executive, advertising man, commercial artist or designer.

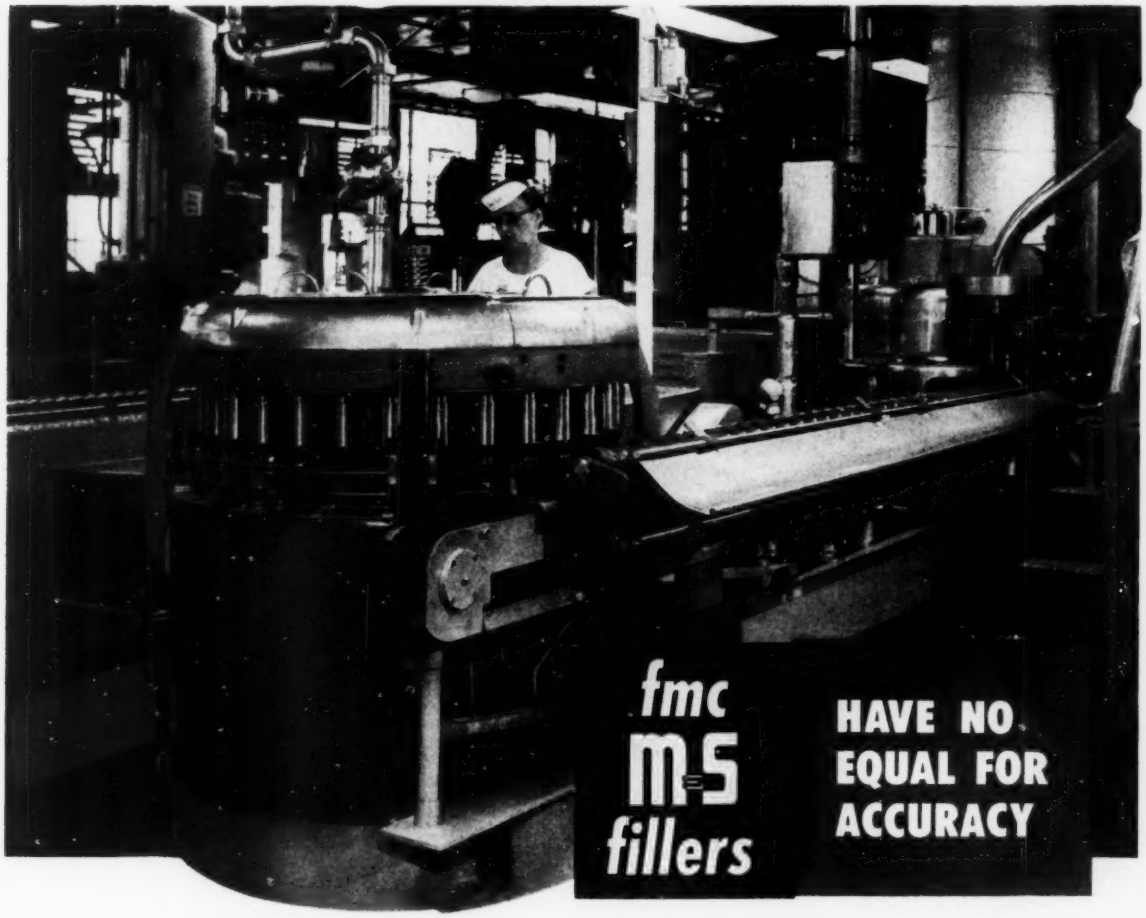
The Annual Meeting and Design Conference of the **American Society of Industrial Designers** has been scheduled to be held, Oct. 17-20, at the Ojai Valley Inn, Ojai, Calif. Authorities in science, education, the professions and industry will explore the role of the industrial designer in our present and future economy. Three top scientists from California Institute of Technology will present "The Next 100 Years" and **Charles Luckman** of Pereira & Luckman, architects and engineers, will deliver one of the meeting's major addresses. Further information is available from the American Society of Industrial Designers, 48 E. 49 St., New York 17.

Dr. Roger H. Lueck, vice president in charge of the research and technical department, **American Can Co.**, is scheduled to present the keynote address at the 35th annual meeting of the Federation of Paint & Varnish Production Clubs at the Bellevue-Stratford Hotel, Philadelphia, Oct. 30-Nov. 2.

A Secretary of the Army's Research & Study Fellowship has been awarded to **John O. Younger**, container technologist in the research branch, **Quartermaster Food & Container Institute for the Armed Forces**, Chicago. His proposed program includes advanced studies on paper properties, instrumentation for evaluation of these properties and research in the field of packaging technology.

To consolidate all testing methods, regulations and recommended practices developed in the last 10 years by the pressurized-packaging industry, **Chemical Specialties Mfrs. Assn.** has prepared a 96-page guidebook for manufacturers and marketers of aerosol products. The guide, available in looseleaf binder form, contains all accepted testing methods developed by the scientific committees of the association's aerosol division. The CSMA Aerosol Guide is available at $8 per copy from Chemical Specialties Mfrs. Assn., Inc., 50 E. 41 St., New York 17.

M&S 30 Pocket Filler combines high speed and accuracy filling baby foods at Beech Nut's Rochester, New York plant.



Absolutely Accurate, Clean, Uniform Filling Without Waste

Actual comparison testing proves that M & S Positive Displacement Type Fillers provide the most profitable combination of the four "most wanted" filler features:

1. **High Accuracy.** Exclusive pre-measuring principle of M & S insures consistent close-tolerance filling for higher case yield per batch of product.
2. **Low Maintenance.** Rugged construction and precision engineering of M & S Fillers assure long life and dependability under the toughest, heaviest production schedules.
3. **High Speed Operation.** The M & S line includes fillers in every speed range – equalling the speed of latest cappers and closing machines – with no sacrifice in accuracy. The new, exclusive FMC "No can – No fill" mechanism for each valve, is now available for high speed operations.
4. **Sanitary by Design.** Available in stainless and non-corrosive type contact materials to meet your specific needs. Quickly dismantled for easy cleaning.

Your FMC representative will gladly show you which M & S Filler Model is best suited for your product. Won't you call him today?

MODELS FOR MOST LIQUID, SEMI-LIQUID AND HEAVY SEMI-SOLID PRODUCTS

FMC-M&S Plunger or Piston Fillers are built in 6, 9, 10, 15, 20 and 30 pocket sizes. They are designed on the time-proven principle of product pre-measurement and positive ejection into containers by precision pistons. When you specify M&S, you buy the filler recognized as the "Standard of the filling industry" for more than 70 years.

Send for free copy of Bulletin No. 501E, "Fillers by FMC."

FOOD MACHINERY
AND CHEMICAL CORPORATION
Canning Machinery Division
General Sales Offices:
WESTERN: SAN JOSE, CALIF. • EASTERN: HOOPESTON, ILL.

U. S. patents digest

This digest includes each month the more important patents of interest to those who are concerned with packaging materials. Copies of patents are available from the U. S. Patent Office, Washington, at 25 cents each in currency, money order or certified check; postage stamps not accepted. Edited by H. A. Levey.

Web-Shifting Apparatus, I. L. Fite, Oklahoma City, Okla. U.S. 2,797,091, June 25. In a self-compensating mechanism for straightening traveling web comprising, in combination, a roller over which the web travels and about which it is wrapped to effect a substantial frictional engagement therewith.

Bottle-Stoppering Apparatus, Leonard T. Cookson (to The Upjohn Co., Kalamazoo, Mich., a corporation of Michigan). U.S. 2,797,541, July 2. A device for automatically inserting stoppers into successive bottles, which stoppers each have a laterally extending cap-like resiliently flexible flange at their upper ends, said bottles being fed successively to a station point.

Corrugated Board Slitting Machines, Louis K. Schmidt, et al., (to Elgin Corrugated Box Co., Inc., a corporation of Illinois). U.S. 2,797,751, July 2. A slitting machine having sets of feed and pull rolls with their axes parallel and the grip portions lying in a common plane and spaced apart in the direction of feed.

Appliance Container, Nicholas M. Sider (to International Paper Co., New York, N.Y., a corporation of New York). U.S. 2,797,800, July 2. A package formed from paperboard and comprising an appliance-mounting skid, an appliance mounted on said skid and a carton surrounding said appliance.

Container, Having a Hinged Cover, Robert Kenneth Gibbs (to Tri-State Plastic Molding Co., Inc., Henderson, Ky., a corporation of Kentucky). U.S. 2,797,840, July 2. A box comprising, in combination, a body molded from plastic composition material and having a base and boundary walls, one of said walls having projecting outwardly from its upper edge an odd number of longitudinally spaced female hinge elements in laterally adjacent relation and extending generally parallel to said base; adjacent elements being shaped to provide diametrically opposite, coaxially elongated, and substantially semi-cylindrical hinge pintle bearing surfaces, alternate female hinge elements having downwardly facing bearing surfaces.

Method and Means of Seaming Plastic Interlined Containers, Martin A. Orlins (to Rheem Mfg. Co., Richmond, Calif., a corporation of California). U.S. 2,797,843, July 2. In the fabrication of a cylindrical metal container having an axially extending side seam and a plastic interliner covering and secured to the inner peripheral surface of said container except at said seam; a method of forming an uninterrupted protective lining for said container comprising: placing a strip of plastic over said seam and over the exposed inner surface of adjacent edge portions of said interliner, bonding the confronting surfaces of said seam and said strip with an adhesive and fusing the confronting surfaces of said strip and said interliner edge portions together.

Bottle Carrier, Reynolds Guyer, et al., (to Waldorf Paper Products Co., St. Paul, Minn., a corporation of Minnesota). U.S. 2,797,845, July 2. A bottle carrier including foldably connected side and end walls, a partition-wall unit, an anchoring flap on each partition wall, a hook-shaped projection on each partition-wall unit to hold said partition-wall units in overlapping relation with the end-wall sections and a tab on each partition-wall unit.

Handled Cartons, Harold R. Jaeschke (to Waldorf Paper Products Co., St. Paul, Minn., a corporation of Minnesota). U.S. 2,797,856, July 2. A handled carton including a series of five elongated panels having longitudinal edges foldably connected together along generally parallel fold lines to form a rectangular carton having top, bottom and side walls.

Twin Length Selector Control for Tape Dispenser, Herbert W. Hempel (to Marsh Stencil Machine Co., Belleville, Ill., a corporation of Illinois). U.S. 2,797,919, July 2. In a tape dispenser comprising electrically driven tape-feeding means; means including individual positionable members for pre-selecting a plurality of tape lengths, means for selecting particular pre-selected tape lengths for immediate dispensation, means for measuring a strip of tape while it is being fed and means cooperable with both the pre-selecting means and the measuring means for de-actuating the electrically driven feeding means, said de-actuating means including different circuit-breaking means corresponding to positionable members.

Box-Making Die, Ernest C. Clement, Oak Park, Ill. U.S. 2,798,416, July 9. A box-making die comprising a supporting framework, a pair of laterally spaced main shafts, a nut threaded on each end portion of each main shaft, front and rear pressure plates, means rotating said nuts for varying the distance between pressure plates, a crank arm carried on each main shaft, a toggle joint, links pivoted respectively to said crank arms and to each other, means reciprocating the pivot common to said links, means coordinating the rotation of said main shafts comprising double sprockets fixed one on each of the two main shafts, and a pair of sprocket-engaging chains cooperating with said double sprockets.

Blank-Forming Press, John R. Baumgartner, Milwaukee, Wis. U.S. 2,798,417, July 9. In a blank-forming press having an upper platen and a blank-forming member secured at its side edges to the lower face of said platen, means for preventing sagging of the intermediate portion of said member, comprising a series of segregated permanent magnets mounted in platen in direct attractive relation with said portion of member.

Protective Sleeve for Chime of Fibre Drum, Thomas H. Gibbs (to Continental Can Co., Inc., New York, N.Y., a corporation of New York). U.S. 2,798,654, July 9. A fibre drum, a liner for drum wall, a chime surrounding and fitting the upper end portion of said body wall, said chime being deformed inwardly with the body wall to provide a rib projecting inwardly on the inner face of the body wall and a corresponding groove on the outer face thereof, an open-ended protective sleeve of stretchable liquid-resisting material having its inner end sealed to liner over body rib.

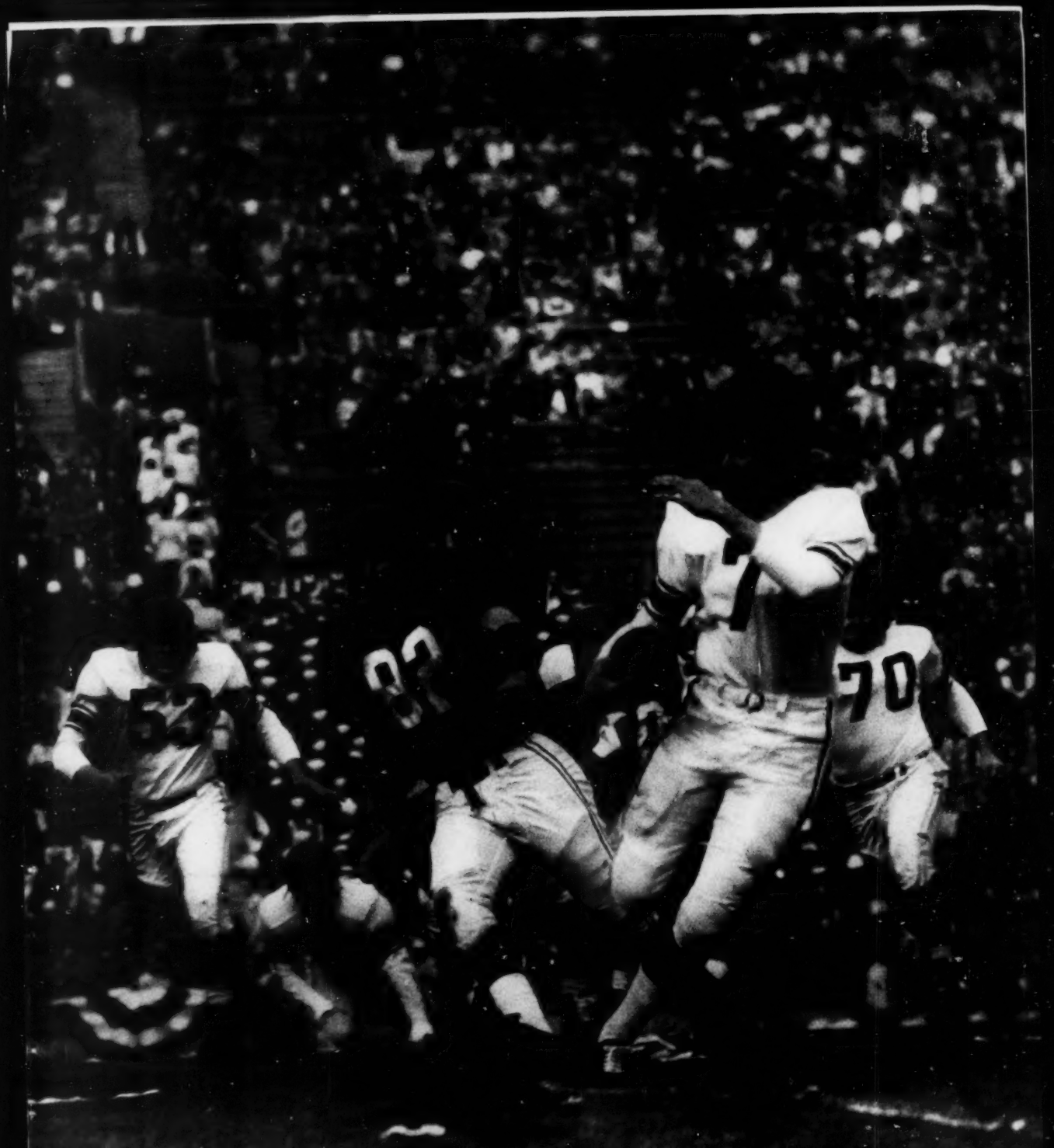
Packaging Carton for Cans and the Like, Kenneth T. Buttery, et al., (to Sutherland Paper Co., Kalamazoo, Mich.). U.S. 2,798,655, July 9. A tubular carton adapted for packaging containers having longitudinally projecting rims at the ends thereof, comprising four walls hingedly connected to provide a tubular structure open at its ends.

Collapsible Carton, Morris W. Kuchenbecker (to Marathon Corp. Rothschild, Wis., a corporation of Wisconsin). U.S. 2,798,656, July 9. A collapsible carton formed from a one-piece paperboard blank, the carton comprising side walls hingedly connected together, having bottom flaps extending integrally from its lower edge, diagonal score lines dividing each of said bottom flaps, with a notch cut therein forming a hook-like portion on each of said panels.

Method and Apparatus for Manufacturing Blanks for Tubular Containers Having Moisture-Resistant Linings, Hans Zerlin, et al., (to Jagenberg-Werk Akt.-Ges., Dusseldorf, Germany). U.S. 2,799,211, July 16. The method of manufacturing flattened lined tubular blanks comprising feeding a web of carton-forming material through a plurality of rollers and adhering the blanks together in overlapped relation by pressure-activatable adhesive.

Container for Dispensing Sheet Material, Walter A. Klein (to The Dow Chemical Co., Midland, Mich., a corporation of Delaware). U.S. 2,799,393, July 16. A dispensing container for packaging a wound supply roll of sheet material, said container comprising a folded blank with an elongated slot through which sheet is withdrawn.

Carton-Taping Machine, Ludwig G. Scheib (to Clybourn Machine Corp., Chicago, Ill., a corporation of Illinois). U.S. 2,799,419, July 16. In a carton-



POWERFUL DRIVE winning quality

A tough man to stop. Hard running . . . slashing . . . [illegible] a hole. How about your packaging? Does it have the strength power to plunge through a pile-up of competitors at the point of sale? With Fibreboard's packaging pros in your line, [illegible] score more often. Use the eye-stopping [illegible] and cases to outplay your competition. [illegible] professional packaging quarterback . . . your [illegible]

FIBREBOARD

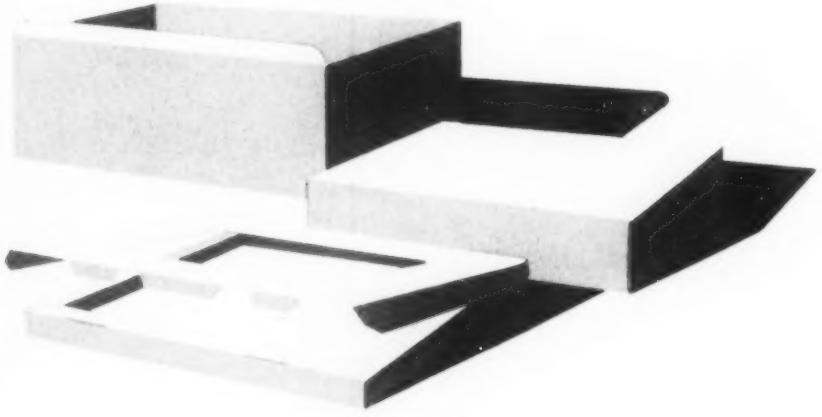
Nation-wide offices and services are listed on back of this page.

For Meat Packaging
Look to FIBREBOARD FIRST

More best-selling Meats are going to market in Fibreboard containers every day. Because more and more packers find that our creative abilities, personal services, and strategic supply points present unusual advantages. Ask our sales representative for examples of containers precision-designed to save time and cost on automatic packaging machines.

Folding Cartons Shipping Cases Bacon Trays and Boards
Containers for Sausages Specialties for Table-Ready Meats
Cartons for Fresh or Frozen Meats Stock, or Special-Made-To-Order

All sizes, all styles. Plain, or incomparably printed by our facilities for Letterpress Lithography Rotogravure Flexography



FIBREBOARD
Paper Products Corporation
Head office: San Francisco

Service offices, West: Billings, Boise, Denver, Fresno, Los Angeles, Missoula, Oakland, Omaha, Phoenix, Portland, Sacramento, Salem, Salinas, Salt Lake City, San Diego, San Francisco, San Jose, Seattle, Stockton, Yakima.

East: Allentown, Baltimore, Chicago, Lancaster, New York, Philadelphia, Salisbury.

U. S. patents digest

taping machine of the character described, at least one taping unit mounted adjacent conveyor means for continuously moving and taping cartons having closure flaps.

Dispensing Opening for a Container, Emil G. Frederich, et al., (to Crown Zellerbach Corp., San Francisco, Calif., a corporation of Delaware). U.S. 2,799,440, July 16. A dispensing container having an upstanding body section with side walls connected together along fold lines and a bottom closure tray having a bottom panel with upstanding side panels.

Box With Automatic Closure, Robert E. Van Rosen (to Robert Gair Co., Inc., New York, N.Y., a corporation of Delaware). U.S. 2,799,442, July 16. In a box made of paperboard, the combination of four rectangularly disposed side walls, a bottom closure and a top closure held together by a pair of webs being hingedly joined to one side.

Packaging (Vacuum), Sanford R. Grinstead, et al., (to Swift & Co., Chicago, Ill.). U.S. 2,799,589, July 16. The method of preparing packages of product sealed in thermoplastic packaging material, including the step of evacuating the container prior to sealing.

Method and Apparatus for Producing Flexible Containers, Kenneth A. Rusch (to Milprint, Inc., Milwaukee, Wis., a corporation of Delaware). U.S. 2,800,163, July 23. The method of producing flexible containers which comprises longitudinally advancing material along a predetermined path, sealing the tube transversely thereacross at spaced intervals to provide a succession of transverse seals, transversely perforating the tube, thereafter completely severing the tube transversely thereacross adjacent to and rearwardly beyond each of the lines of perforations while continuing the advancement thereof to provide thereby successive separated sections and, finally, clamping the trailing portion of each section rearwardly beyond the transverse perforations thereof while continuing the advancement of the section to thereby remove such portion

Can-Packaging Wrapper and Can Package Formed Therefrom, Charles Taylor Walter, et al., (to Continental Can Co., Inc., New York, N.Y.). U.S. 2,800,224, July 23. A can package comprising multiple superposed tiers of cans with each tier composed of multiple rows of cans, a tier sheet between each pair of superposed can tiers, a bottom closure sheet, a top closure sheet and an encasing paper envelope comprising an upstanding tube having marginal edges folded over and sealed against each of said bottom and top sheets, together with a reinforcing strip.

Collapsible Cartons, Kenneth T. Buttery (to Sutherland Paper Co., Kalamazoo, Mich.). U.S. 2,800,250, July 23. A collapsible two-compartment carton formed of an integral blank and comprising end and side walls hingedly connected, partition members, side-wall attaching flaps aligned in the blank and hingedly connected to the vertical edges of the other pair of side walls and a bottom unit having an attaching flap and diagonally foldable bottom flaps.

Ice-Cream Container, Melvin J. Kelly (to Waldorf Paper Products Co., St. Paul, Minn.). U.S. 2,800,266, July 23. The end closure for a tubular container having angularly arranged connected side walls and flanges on the bottom edges of said side walls adhered to the outer surfaces of the side walls, the closure including a main closure panel and side-wall panels foldably connected thereto, locking flanges and a tear strip defined by weakened lines of separation extending across said main closure panel.

Handled Container, Katherine Mathews (to Milprint, Inc., Milwaukee, Wis., a corporation of Delaware). U.S. 2,800,268, July 23. A paperboard container comprising a single blank scored to provide cooperating closure-wall portions and a flap portion adapted to overlie one of said wall portions and providing an elongated integral handle member having one end hingedly connected to the blank at said one score line, while its opposite end is laterally engaged to provide extensions slidable along and beneath said guideways within the area of said flap portion and between said flap portion and said underlying wall portion when the member is displaced to form a handle.

Valved Bag, Donald P. Smith (to Milprint, Inc., Milwaukee, Wis., a corporation of Delaware). U.S. 2,800,269, July 23. An article of manufacture comprising a commodity-receiving container having side walls formed of flexible sheet material, each of the walls having a marginal portion along adjacent edges folded inwardly and a seal extending around the marginal edges of the side walls to provide an enclosure.

Method of Making Corrugated-Lined Box Blanks, John H. Herrick (to Bestpak Inc., Natick, Mass., a corporation of Massachusetts). U.S. 2,800,840, July 30. In a method of making foldable box blanks each scored along fold lines on which the blank is adapted to fold to fully enclosed rectangular box form and each embodying a plain backing sheet having a one-piece corrugated liner adhesively affixed to one face thereof solely in the area forming the interior walls of the folded box and having predetermined marginal areas not covered by the liner and forming plane closure flap sections adapted to fold into flat surface contact with the plain exterior wall face of the box.

Holder for Cone-Top Cans, Richard S. Wolowicz (to Container Corp. of America, Chicago, Ill., a corporation of Delaware). U.S. 2,801,001, July 30. A package comprising a row of cone-top cans, said holder being formed of foldable paperboard and including top and bottom walls substantially equal in width to the diameter of said cans, two oppositely disposed side walls hingedly interconnected to provide an open-end tube encircling said row, means for re-

HELPFUL BOOKLETS FREE!

MOLDED PULP FOR PACKAGING. 28-page catalog describes uses of company's molded pulp as both packaging and packing material. Gives illustrations and specifications for food containers and trays made of molded pulp. Keyes Fibre Co. **(J-759)**

HEAVY DUTY VIALS. Illustrated data sheet describes transparent acetate vials, designed for heavy duty protective packaging applications, such as for ball bearings and instruments. Extruded Plastics, Inc. **(J-760)**

GIFT BOXES. Illustrated folder gives specifications for line of stock paper boxes, including hinged cover, satin lined, paper lined types. Oscar Trilsch Co. **(J-752)**

BATCH COUNTER. Illustrated folder describes electronic unit that counts and batches items such as tablets, pills, capsules, beads, at average speeds of 1200 to 1500 a minute. The Burnet Co. **(J-762)**

ROTARY LIQUID FILLER. Data sheet describes rotary vacuum filling machines for liquids that operate at speeds from 96 to 125 quarts a minute for gallon, half-gallon, or smaller containers. International Filling Machine Corp. **(J-769)**

Any of the booklets described here plus many others—forty-two in all—are available for the asking, without charge or obligation.

Just turn to the Manufacturers' Literature page in this issue (it's printed on heavy paper), circle the numbers corresponding to the booklets you want, fill in the reply postcard, and mail. No postage needed.

We'll see that you get the literature you request promptly.

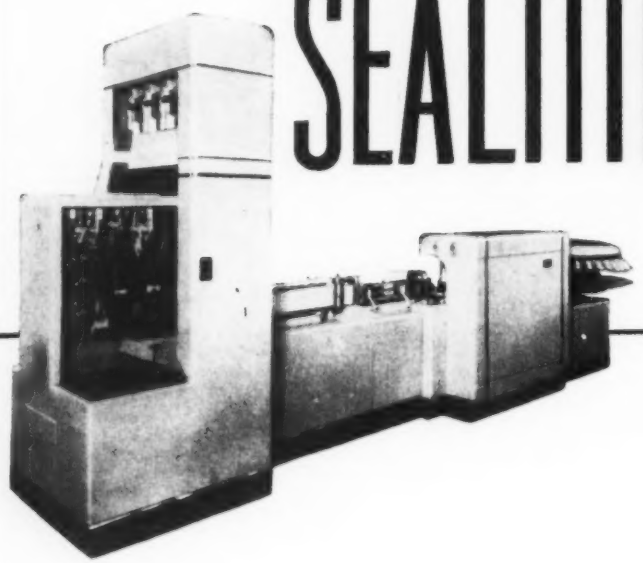
A Service of

MODERN PACKAGING

A Breskin Publication

575 Madison Ave., New York 22, N.Y.

CUT COST WITH SEALTITE



- Delivers a well settled, nicely squared bag at top, bottom and sides
- Pre-scored, double fold, uniformly glued seal keeps product in and dirt out
- Uses any standard make of gusseted bag — no royalties
- Seal readily opened, yet tamper-proof
- Seals 30 to 50 bags per minute
- Users report costs reduced up to $500.00 per month per machine

Write for complete information

CONSOLIDATED PACKAGING MACHINERY CORP.
1400 West Ave., Buffalo 13, N. Y.

U.S. patents digest

taining the lower portions of the end cans within said tube, a retaining tab, an opening in each tab adjacent said top wall, extensions of said top wall overlying the cap closures of said end cans.

Packages With Cover or Support Therefor, Lloyd Irwin Volckening, et al., (to Ivers-Lee Co., Newark, N.J., a corporation of Delaware). U.S. 2,801,002, July 30. The combination of a support panel and a relatively small package secured thereto, said relatively small package comprising an envelope having a commodity-containing compartment, a flexible backing strip folded into superposed sections.

Indicating Screw Plug for Barrels and Other Containers and Sealing Means for Said Plug, Johan Carl Julius Evenblij (to American Flange & Mfg. Co., Inc., New York, N.Y., a corporation of Delaware). U.S. 2,801,022, July 30. A metal barrel for storing and transporting liquids having a metal cover formed with an opening, said opening being provided with an internally threaded metal bung ring secured in said opening to the adjacent portions of the cover, said bung ring having a radially opening peripheral groove defined by upper and lower spaced flanges, said groove receiving the portions of said cover defining said opening, a self-sealing screw plug and a transparent sealing cap covering said bung ring and screw plug, and engaging the surface of the screw plug to hold said plug against accidental loosening.

Disposable Container, Edwin L. Arneson (to Federal Paper Board Co., Inc., Bogota, N.J., a corporation of New York). U.S. 2,801,039, July 30. A container including a cylindrical body portion of flexible cardboard-type material having removable top and bottom closure disks associated with the ends thereof and body portion being provided with reversely folded end margins defining at both top and bottom an integral outwardly carried collar, identical one-piece rigidity imparting rims carried by said body portion at the top and bottom thereof surrounding and tightly engaging said collars.

Liquid-tight Container of Paper, Cardboard and the Like, and Method of Manufacturing, Filling and Closing the Same, Gunther Meyer-Jagenberg, et al., (to Jagenberg-Werke Akt.-Ges., Dusseldorf, Germany). U.S. 2,801,040, July 30. A liquid-tight container of paper, cardboard or like carton-forming material comprising a one-piece tubular body having upper and lower ends, said body including an upper portion of substantially square cross-section having rounded corners and an external shape tapering uninterruptedly downwardly and inwardly, terminating in a round bottom, the upper closure including a flat plate of a thickness greater than that of the container body and also having a filling and dispensing opening therein, a closure flap and a round closure for the lower end of said body.

STEIGERWALD

SENSI-STICK

LABELS

Pressure Sensitive

NO GLUE!

Easy as 1, 2 to Apply!

NO CLEANUP!

PERMANENT OR REMOVABLE

Easy to Apply . . . Sure to Stick!

Gone is the glue pot! Gone is water! Steigerwald Sensi-Stick pressure sensitive labels eliminate forever old-fashioned start-up and clean-up labeling machine jobs.

Sensi-Stick simplifies labeling to a 1, 2—pick and stick quick way—Individual labels or Dispenser automatically feeds individual labels on a tape ready for rapid application.

Economical—Faster Better for all surfaces

Steigerwald Sensi-Stick labels hold securely on all surfaces—won't buckle, curl or rub off even where others fail and nothing else will hold—choice of permanent or easy-to-take-off, surface safe adhesives.

Beautiful designs

Reproduce your present label just as it is on Sensi-Stick or consider a new design with a choice of gold or silver foil; embossed; lustrous papers and sparkling inks to add an extra note of quality to your product. Use Sensi-Stick to show you the way to the world's fastest hand labeling operation.

Today!

CINCINNATI, OHIO
A. C. Stollmaier
Stollmaier & Son, Inc.
Management Center Bldg.
REcamble 1-0222

CLEVELAND 14, OHIO
R. C. Foster
Viking Building
1247 Chester Avenue
Cherry 1-2268

DETROIT, MICHIGAN
Harry W. Hoge
15450 Livernois Ave.
Diamond 1-7133

KANSAS CITY, MO.
A. B. Mason
505 Jefferson St.
Victor 2-6580

LOUISVILLE, KY.
Practical Products
Joe Hermann
310 W. Jefferson St.
Walnut 1258

MEMPHIS, TENN.
Edward Maginnis
36 Alabama Ave.
Jackson 5-5423

MILWAUKEE, WIS.
H. [illegible]
5443 S. [illegible] Drive
Gardner 5-5800

MINNEAPOLIS, MINN.
J. E. and J. L. Moor
1276 Dupont Ave. So.
Taylor 4-5309

NEW YORK, N.Y.
John H. McGrath
500 W. 43 St.
Medallion 3-[illegible]

ST. LOUIS, MO.
Morgan Edge Company
Clayton Terrace Bldg.
8220 Delmar Blvd.
Fairview 6-0057

TAMPA, FLORIDA
A. J. Hinkle
P. O. Box 1450
Tampa 2-[illegible]

A. M. STEIGERWALD CO.

910 W. Van Buren Street
Chicago 7, Illinois
TAylor 9-5400

A SCIENTIFICALLY CONTROLLED LIGHTING

GIANT STEP

TOWARD INDUSTRY WIDE LIGHTING STANDARDIZATION

FOR CRITICAL COLOR PROOFING we recommend the BX86 shown in use above.

"To eliminate costly error formerly present because proofs and art copy were viewed under different kinds of light", is the reason given by the R & E Council of the Graphic Arts Industry and the I.E.S. for this important step toward "lighting standardization". They are satisfied that suitable light quality and light uniformity will be present at each critical viewing step, to eliminate a good deal of your replating and reproofing problems. These new specifications make it possible for you in the Graphic Arts field to require full technical detail on any light source represented as meeting these "standards". You can now evaluate for quality in much the same way as you do with paper, ink, etc. Today, only Macbeth offers a complete line of lighting to meet the high standards set down by your own Industry Tech Committee.

Macbeth also manufactures an Adjustable Transparency Illuminator which features controllable (rheostat) intensity and controllable color temperature, with singly controlled daylight and incandescent light color rheostats. Built-in light meter permits numerical measurement of the amounts of D/L and including light required to color.

For the complete story on lighting for color in your industry, send for Bulletin #269 to Dept. ML-9.

FOR PROOF & PRESS TABLE ILLUMINATION, you need Macbeth Examolite Type C-4D. Gives the desired light quality for critical color appraisal of proofs against original copy, and for proof table lighting, where production press sheets are compared with OK'd press proofs for color uniformity during the run.

LIGHTING FOR INK COLOR MATCHING For the foolproof matching on non-process inks for faithful color reproduction, the Macbeth Industrial Color Matching Skylight (BX 826) provides the two variant light sources proved best for matching specifications.

Macbeth Corporation
Newburgh, N. Y.

I am interested. Please send me detailed literature. Have your representative call.
Name .....
Address .....
City ..... State .....

MACBETH
DAYLIGHTING CORPORATION
A Subsidiary of the Macbeth Corporation
P. O. Box 950, Newburgh, New York

Fibre cans—an industry survey

[*Continued from page 128*]

obtained which would justify these investments.

It will be well worth the effort to solve these internal industry problems, for it is estimated that fibre cans are currently reaching only 10% of their potential market.

DEVELOPMENTS

In spite of all of these difficulties, however, the fibre-can industry has made considerable strides since the end of World War II.

Fibre-can strength has been improved, crimping is better and faster, and new coatings and adhesives have been added. Corn dextrines, animal glues, asphalts, asphalt-wax emulsions, latices, paraffin and wax coatings, new saturates and thermoplastics are among the sealing products now used. In addition to new impregnations, improved papers, better liners and aluminum foil have been added to the body stock itself.

New closure designs now answer a greater variety of product dispensing needs than ever before.

While the basic package design has changed little through the years, interesting new constructions and new uses have been developed. For the military, vinyl mats and rafts come in a metal-end fibre can that also serves as a pump. The same principle is used for packaging and blowing up toy balloons. The Armed Forces have developed fibre cans that will withstand a parachute drop, in addition to using fibre cans for ammunition, fuses and other war needs.

The production of fibre cans mushroomed in World War II and the Korean War as a result of military needs, and in another national emergency, military demands probably would require a fibre-can production five times the present total industry volume.

The fibre can's peacetime role has been equally dramatic. In addition to the biscuit can, there are the duster cans that form two-piece, self-contained spray guns for weed killers, flower dusters and slip-proof ice sprays. The metal-end fibre can has moved into the frozen-food field and is now being used extensively for frozen fruits packed in viscous syrup, the paperboard assisting the quick-freezing process.

Greater ease of opening and closing have expanded the fibre-can usage, along with improved body constructions. Other applications include a caulking-compound gun, bread-crumb cans, mailing cans for books, battery-acid containers in conjunction with a polyethylene insert, fuel-oil and paint cans, and rugged packages for nails.

To help speed new uses for the fibre can, the industry through its association has engaged several independent research organizations to work on special problems. The Battelle Memorial Institute, Armour Institute and several other research staffs have helped to apply the fibre can to new packaging uses. As this work grows, it appears that the industry will find new packaging horizons.

WHAT'S AHEAD

Changes are taking place that may dramatically alter the fibre-can picture within the next two years. Developments are under way for improving fibre-can constructions and for more automatic and integrated production lines.

New improvements in linings will make it possible to package a greater number of semi-liquid products in these containers. Progress is being made in combining polyethylene and vinyl films with the paperboard bodies. Functional limitations of the fibre can will be reduced as these advances are made.

New constructions may pave the way for big-volume usage of composite canisters. At least two companies are developing "see-through" packages by combining paperboard with acetate or oriented polystyrene film. A completely liquid-tight window can may result from these investigations.

Other can designs now in the works include one for a wax polish and a revolutionary container for a package-mix product.

Machinery advances are all pointing the way to more integrated and automatic production methods. A new high-speed eight-head seamer recently perfected is being installed

The high impact strength of film made from Spencer "Poly-Eth" 2200 series resins is demonstrated in this stop-motion photo.

In Film Extrusion . . .
"Poly-Eth" For Impact Strength:

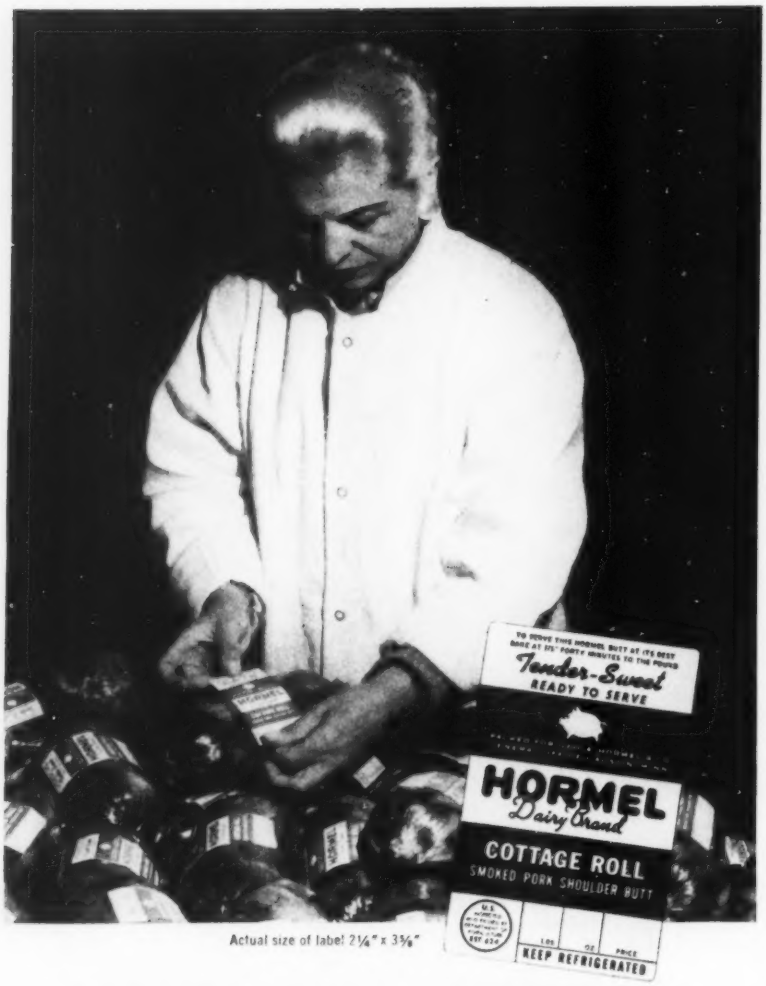
Read why more and more extruders are switching to Spencer 2200 film grade resins for high impact strength:

A proven series of Spencer "Poly-Eth" film grade resins now makes possible the extrusion of polyethylene films with extremely high impact strength. These resins — Spencer's 2200 series—are designed to meet the rigid requirements of film for packaging produce, hardware and industrial items, as well as film for many construction applications.

Uniformly high impact strength is only one advantage of this "Poly-Eth" 2200 series. These resins offer excellent tensile strength and clarity as well as easy processing, fast take-off and greater output. Good draw-down is another important feature of these resins. For example, "Poly-Eth" 2206 is regularly used for the extrusion of film of less than one mil.

A full line of high impact resins is offered in Spencer's 2200 series. The resins are available in melt index of both two and four, with slip characteristics to meet your requirements. The following resins have a melt index of two: 2205 (no slip), 2215 (medium slip) and 2235 (high slip). These "Poly-Eth" high impact resins have a melt index of four: 2206 (no slip), 2236 (medium slip) and 2256 (high slip).

Why not learn for yourself why more and more extruders are switching to "Poly-Eth" 2200 series resins for film with uniformly high impact strength? Just drop us a line for more details, or for names of suppliers who have this film available. Write Spencer Chemical Company, Dwight Bldg., Kansas City 5, Mo.



Actual size of label 2¼" x 3⅜"

HORMEL USES DENNISON PRES-a-ply* LABELS

To . . . emphasize serving instructions . . . display the famous HORMEL trademark . . . provide space for weight and price.

Dennison PRES-a-ply can help solve your labeling problems. Look at these unique advantages:

The modern, labor-saving way to label. No wetting, no waiting — just a press of the finger and they stick.

Adhere to a variety of films — and other hard-to-label surfaces.

Dennison-designed to meet *your* needs — and Dennison-produced to insure top quality.

Wide variety of stocks available; permanent or removable adhesives.

Four convenient PRES-a-ply dispensers — manual or electric.

**Registered trademark for Dennison self-adhering labels.*

FOR MORE INFORMATION WRITE...

Dennison

DEPT. 227, FRAMINGHAM, MASS.
in Canada: Drummondville, Quebec

by several companies. With just four heads operating, the seamer will affix more than 200 ends a minute, making it necessary to accelerate in-feed and take-off at this point.

A spiral-winding machine is reported ready for the market which will manufacture rectangular, oblong and triangular bodies. If the machine performs as suggested, it will be a boon to the spiral-wound fibre-can industry.

Automatic cut-offs will be faster, automatic labeling will be added and improved, automatic winding will be speeded and the entire fibre-can manufacturing process will be moving toward complete automation.

With such advances, the fibre-can industry may be on the verge of important new growth as a package supplier.

Toothpaste

[Continued from page 115]

submitted to the FDA which apparently has reported nothing objectionable from a toxicity standpoint.

Conventional packaging equipment is being used at Bristol-Myers to fill the containers, but because of their unconventional shape, specially designed chucks had to be installed to hold the containers in proper position to receive the fill.

A leading package designer worked in conjunction with the Bristol-Myers packaging group to create surface design that would have a "dressing-table" quality to encourage open display on the bathroom shelf. The opaque squeeze bottles are Wedgwood blue with trade name directly printed on the container in crimson with a white background. The word "dentifrice" is in reverse white on crimson. Mandatory copy and directions for use are molded in on the back of the bottle.

The unusual shape of the container and its manner of use obviously influenced the design of the paperboard boot in which Ipana Plus is being presented at the point of sale. The die-cut, scored piece—punched for hang-up rack display if desired—holds the squeeze bottle in a cut-out opening against a yellow background to emphasize the position of storage and use.

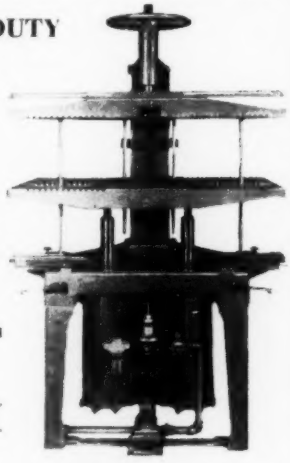
After extensive testing, Bristol-Myers is introducing Ipana Plus nationally this month.

plenty of **MUSCLE** for the heavy jobs:

Here's the answer to the toughest Multiwall Bag Baling assignment. The West Heavy Duty Multiwall Bag Baler was specifically designed to handle the most difficult Bag Baling assignments. Available in a wide size range, it produces the tightest packages every time. Equipped with two eight inch air cylinders, it delivers 10,000 lbs. of pressure evenly distributed over the entire platen area. The heavy cast frame is designed for continuous, rugged operation, adjustable guides always assure even sides . . . neat packages.

THE WEST HEAVY-DUTY

MULTIWALL-BAG BALER



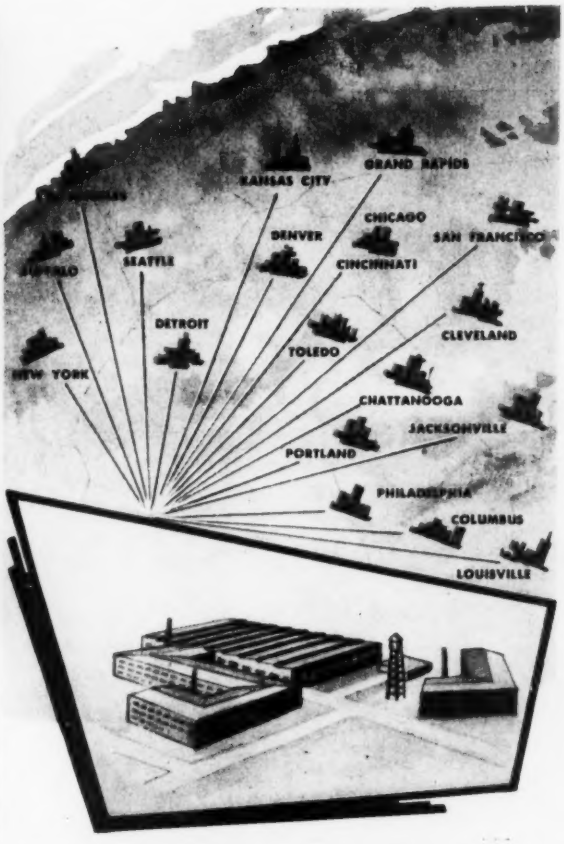
SIZE OF PACKAGE:	MINIMUM	MAXIMUM
Length	21½"	44"
Width	13¼"	25"
Height	10 "	14"

STROKE: 16⅛"; Floor Space: 36" x 45": Shipping Weight: 2500 lbs.

west ENGINEERING COMPANY, INC.

Dept. M1, Vawter Ave. on C&O Ry.
Richmond, Virginia—Phone 7-3057

Designers and Builders of Equipment for the Bag Industry
BALING PRESSES • MULTIWALL BAG PRINTING PRESSES • MULTIWALL BAG SEWING MACHINES



KENNEDY *and* SERVICE

are inseparable

Having men in the right place at the right time is one of the ground rules of good customer service. Small wonder then at Kennedy's industry-wide reputation for service, for Kennedy Packaging Engineers are located in most principal cities of the United States — and in Canada.

In every Kennedy field office there are men with expert knowledge of flexible materials and packaging methods . . . men trained to analyze your problem and recommend its most practical solution. And backing up these engineers is a mile long line of men and machines capable of making anything out of paper, plastics or foil.

Whatever your product, if it involves flexible material packaging . . . and whatever your problem, be it tricky or routine . . . a phone call to your nearest Kennedy field office will bring fast, efficient service.

kennedy
CAR LINER AND BAG CO., INC.
SHELBYVILLE 9, INDIANA

CANADIAN PLANT: WOODSTOCK, ONTARIO

ANOTHER
VERTROD
FIRST!!!

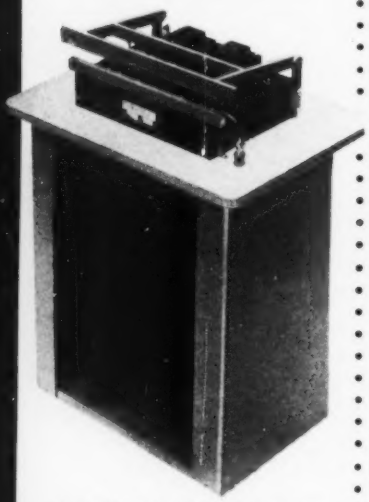
- New HIGH-SPEED Thermal Impulse TRIM-SEALER for Polyethylene with SCRAP BLOW-OFF and RECYCLER.
- Over 50 SEALS per minute.
- Fully Automatic and foot switch actuated Semi-Automatic models in sizes 14" to 24".
- Cold heater bars.
- No heat-up time necessary.
- Automatic Scrap Blow-off.

This newest and most advanced addition to the Vertrod line of Thermal Impulse Sealers is particularly suited for applications where HIGHEST SPEED bag closing is necessary and water-tight seals are not required.

The Vertrod HIGH-SPEED Thermal Impulse Sealers employ compressed air to close the jaws as well as to blow away the trimmed-off scrap.

These models are most suitable for packaging Textiles, Hosiery, Toys, etc. in Poly bags.

HIGH-SPEED!



(PATENTS: 2,460,460; 2,509,439; ET AL)

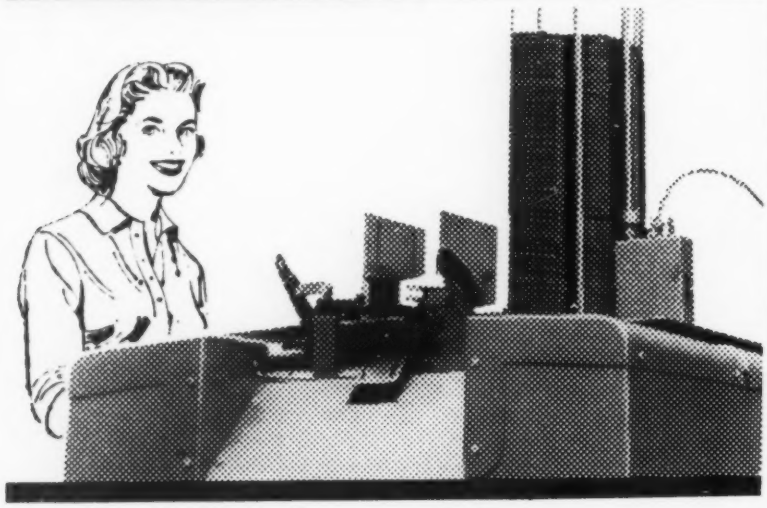
Send for FREE DESCRIPTIVE LITERATURE

Vertrod Corp.

THERMAL IMPULSE HEAT SEALING MACHINERY

2037 Utica Avenue, Brooklyn 34, N. Y.

DISTRIBUTED IN UNITED STATES, CANADA AND FOREIGN COUNTRIES



Tuck-O-Mat

THE STANDARD OF QUALITY IN CARTON SET-UP

Carton Set-Up Machine. Lower costs, higher output, from BIVANS, the quality name in cartoning equipment.

TUCK-O-MAT • CONVEY-O-MAT • PRINTER-CODER • CARTON CLOSER

BIVANS CORPORATION

2431 DALLAS STREET, LOS ANGELES 31, CALIFORNIA

Dist. By New Jersey Machine Corp., Hoboken, Cincinnati, Chicago, Los Angeles

Packaging show tours

Now touring major American cities is "Packaging Showcase," a traveling exhibit designed to sell management on the advantages of aluminum-foil packaging, sponsored by Reynolds Metals Co., Louisville.

According to Paul Murphy, general manager of Reynolds' packaging market sales, the show is expected "to give us a big assist in maintaining leadership in the foil-packaging field." Reynolds, which now operates five gravure plants, this fall opens a new gravure plant in Richmond, Va. Upon completion of the plant, the company will enter the foil-carton business.

"Packaging Showcase" includes 90 ft. of display panels, on which are mounted hundreds of aluminum-foil packages for many different types of product. Heart of the exhibit is a stage for showing movies, slides and other visual presentations.

The Reynolds exhibit and its expansion of plant facilities, says Murphy, are an expression of the company's belief that the next five years will be a period of great growth for aluminum packaging.

Reynolds is counting on its "Packaging Showcase" to help educate packagers to all of the proved advantages of aluminum-foil packaging. The exhibit already has been presented in such cities as New York, Chicago, Philadelphia, Cincinnati and Louisville.

Polyethylene bags up

A U. S. Bureau of Census report on converted flexible packaging products for June, 1957, shows an increase in value of shipments of 6% from June, 1956. Polyethylene and polyethylene-coated bags show an adjusted gain of 26% for the same period.

With five of the last six months showing increases from the same months last year, total value of shipments through June is 4% greater than it was in the corresponding 1956 period.

On a volume basis, polyethylene bags for non-food use represent 41% of all polyethylene bags produced. On the same basis, cellophane bags for non-food use constitute 28% of total cellophane-bag output.

Is there a link
point to top of the
rolled sheet and
aluminum foil

Aluminum Foil

Thermoforms for packaging auto parts

[Continued from page 149]

is left at the edge of each package for starting an opening tear.

Finally, two strips of five are dovetailed, back to back, for easy manual insertion into shallow folding cartons for shipment.

Since adoption of the transparent thermoformed package for contact sets, the company estimates it has saved 30% on shipping charges and 10 to 15% in packaging costs. A major saving in labor cost has been only partially offset by higher material cost.

Holley expects soon to include rotors and eventually ignition parts and carburetors in its thermoformed package program. Although the individual cups can be made to almost any size, maximum cost saving, for the automotive industry at least, so far seems to be in the field of high-volume packaging of smaller parts.

Different combinations of thermoforming and heat-sealing production methods are being perfected in an effort to arrive at maximum efficiency. A one-operation, almost completely automatic forming and sealing procedure, handling a variety of items at one time, seems to be not too far in the future.

The initial program, apparently, has met with enthusiastic jobber and retailer reception, while consumers seem to like the convenient, protective transparent packages.

The thermoformed packages have made such an impression in Detroit that Holley's thermoforming subsidiary is now preparing to take on outside orders for a variety of products, including at least one food product.

Packaging Institute Forum program

[Program continued from page 151]

Wednesday, Oct. 30

9:30 **Production Line Seminar,** Roy W. Abling, Merck Sharp & Dohme, Div. of Merck & Co., Inc., Chairman

Advantages of Package and Equipment Standardization, Thomas Glynn, John H. Breck, Inc.

Importance of Effective Scheduling and Materials Handling, James T. Rutherford, Mercury Div., Ford Motor Co.

Price, Quality, Service—Packaging Machinery Manufacturer's Viewpoint, Richard Wellbrock, New Jersey Machine Corp.

9:30 **Closures Seminar,** George E. Robinson, Merck Sharp & Dohme, Div. of Merck & Co., Inc., Chairman

Some of the Complications Involved in Standardization of Closures for Glass Containers, J. A. Benner, Armstrong Cork Co.

Why Standardize Collapsible Tube Closures, Mark K. Dresden, A. H. Wirz, Inc.

A New Approach to Closures for Plastic Containers, Milton A. Sanders, Atlantic Plastics Corp.

The Forward Look for Food Closures, Robert C. Dewey, Dewey & Almy Chemical Co.

Dispensing Closures in Plastics, George E. Pickering, Lamex Chemical Corp.

9:30 **Shipping Containers Seminar,** Joseph F. Hanlon, American Cyanamid Co., Chairman

A Survey of Non-Skid Treatment for Fibreboard Boxes, Jerome J. Kipnees, Container Laboratories, Inc.

Check-List Used in the Development of a Fibreboard Box, George Gero, Container Laboratories, Inc.

The Growing Use of Single-Faced Corrugated, Frank P. Coons, Johnson & Johnson

A Mechanical Device for Determining Fibreboard Box Dimensions, C. Ray Irons, Socony Mobil Oil Co., Inc.

The Score-to-Score Technique for Determining Fibreboard Box Dimensions, Charles J. Zusi, packaging consultant

How to Measure a Fibreboard Box, Roland K. Fraser, Nashua Corp.

12:30 **Packaging Luncheon**

Creating, Producing and Distributing 6,000,000 Units of a New Package . . . 52 Times Every Year. *Life* magazine prepared this graphic presentation especially for the 19th Annual Forum of the Packaging Institute.

MM

MARKED IMPROVEMENTS in

IDENTIFICATION AND DECORATION

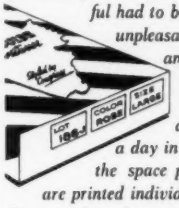
Fifteen thousand kinds of "ink"? . . .

Since 1911, Markem has developed more than 15,000 different marking compounds, and about 10,000 are currently in use. Why so many? Consider the applications: what will "stick" on polystyrene won't on cellulose acetate; what makes clear, lasting imprints on glass drug ampules is a distant chemical relative of the right marking compound for pressure-sensitive tape; and so it goes, from shoe linings to instrument dials, lipstick tubes to lollipop sticks. With all the possible combinations of drying speed, opacity, toxicity . . . liquid, paste and semi-paste forms . . . air dry, baking or high temperature . . . colors by the score —15,000 doesn't seem so fantastic. But it shows Markem's close attention to the "what"—as well as the "how"—of good marking.

Customer's name in lights . . .

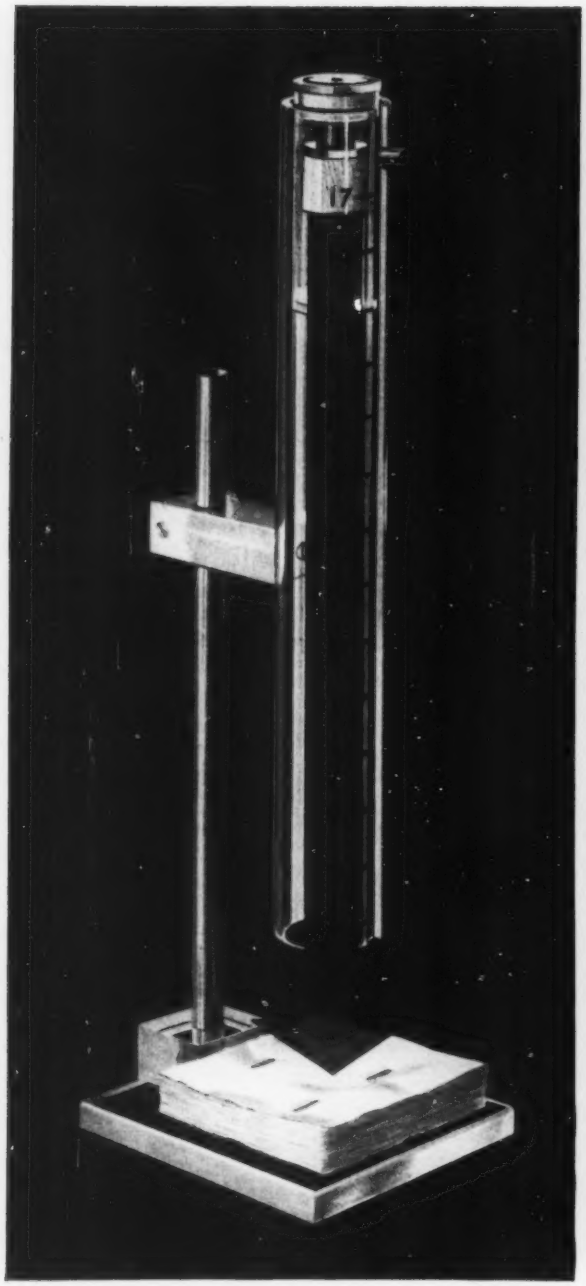
A "special" version of our 20A cylindrical object marker has recently gone to work at a leading electrical plant, imprinting miniature tubular lamps with trademark, wattage, etc. Noteworthy are the feed and marking speed of these rather fragile items: up to 750 (from 4" to 7" long) are put into a hopper, then imprinted at a rate of about 2000 per hour; discharged down a chute to a firing chamber, where imprint is "baked" on. Here again, the right method provides clear marking at production rates.

Don't keep the inspectors waiting . . . *is a cardinal rule on any production line, especially at Congress Sportswear where the final inspectors also do the packaging. But boxes were being laboriously hand stamped with the result that a whole roomful had to be kept on hand—a costly, unpleasant situation from every angle. Now with a Markem 45A box marker, imprints are made twice as fast and look far better; $5.00 a day in labor alone is saved, and the space problem is solved. Orders are printed individually, as they are needed. Goes to show how good marking can help all along the line, from production to point of sale.*

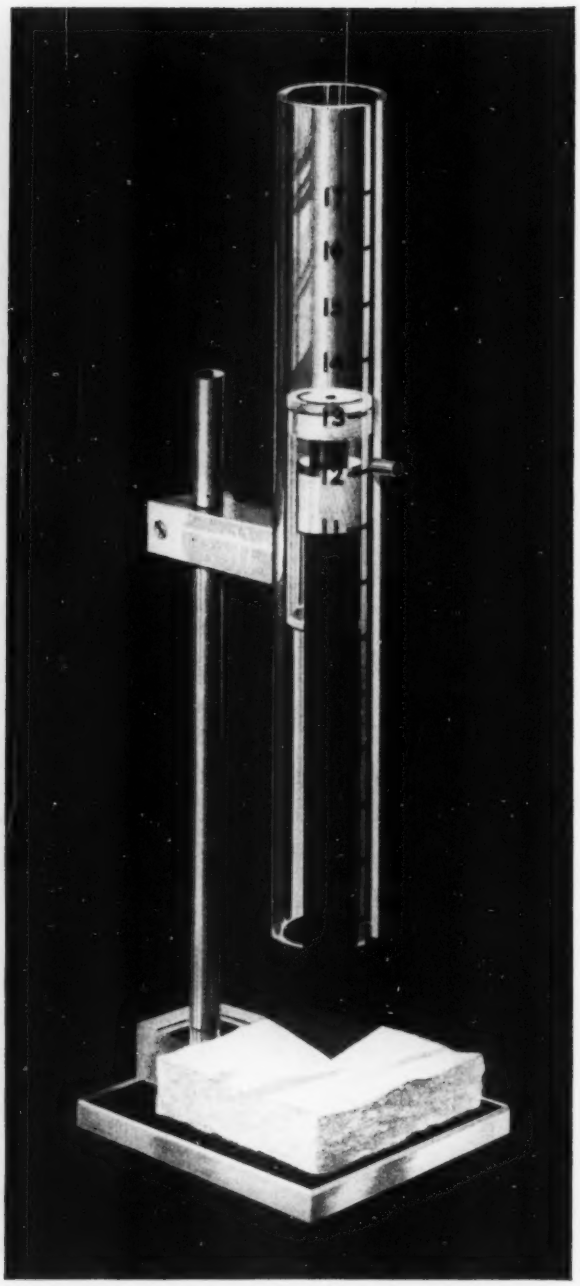


Providing better ways to decorate or identify products, parts and packages is Markem's entire business. Write Markem Machine Co., Keene 1, N.H., when you need help.

MARKEM



Kimpak can absorb the shock of a capsule dropped from a height of 15 inches without separation of the magnet and metal disk.



With another cushioning material of the same weight as Kimpak, 9.2 inches is highest capsule can be dropped without separating magnet and metal disk.

How test is made

For the "Shock Comparison Test" a small iron disk is held by a magnet. Both are contained within a transparent capsule. The capsule is dropped in a lucite tube onto a pad of cushioning material. The highest point from which the drop can be made without the magnet losing its hold on the metal disk is a direct measure of the shock absorbency of the cushioning material.

more shock absorption with

KIMPAK
INTERIOR PACKAGING

How much cushion protection can you expect from an interior packaging material? You can't tell too well from its apparent thickness. Most important is its *effective thickness*—or the *working thickness under load.*

The "Shock Comparison Test" was developed by the U. S. Forest Products Laboratory, Madison, Wisconsin, to compare the shock absorbency of cushioning materials under laboratory conditions. Pictured here is the instrument used in the test.

In the pictures of this test at left, the superior shock absorbing qualities of Kimpak are clearly demonstrated. The other cushioning material with *more apparent thickness* than Kimpak can absorb only about ⅔ as much shock.

This is because the specified thickness of Kimpak is all *effective thickness.* Kimpak is engineered to give you more working thickness than other cushioning materials of the same weight and cost . . . and consequently more shock absorption.

Kimpak in rolls or sheets cut to size is distributed in all major cities. Call your distributor or Kimberly-Clark for a packaging engineer to show this and other modern laboratory tests with Kimpak *right at your desk.* He will help you with your packaging problems, too.

Measure the effective thickness of cushioning materials under the standard 3½ pound per square foot load prescribed by Federal Specification.

Kimberly-Clark offers this Standard Weight, precision made of sturdy aluminum, *free* to all packaging engineers and cushioning buyers. Just ask the Kimpak salesman who calls on you. Or write to Kimberly-Clark, Dept. M-10, Neenah, Wisconsin.

Kimberly Clark
INTERIOR PACKAGING
KIMPAK

Kimpak is a trademark of
Kimberly-Clark Corporation, Neenah, Wisconsin

labor costs

SAVE

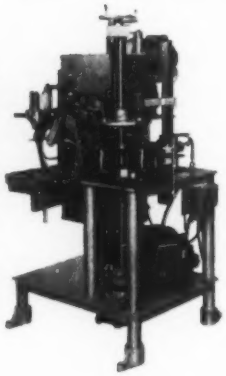
on initial investment

maintenance time

FILL and LABEL with mrm SEMI-MATICS

"UPRITE" Semi-matic LABELING MACHINE

Only semi-automatic machine that labels containers in upright position. Only part changes are feed star and pressure pads to changeover to any size container.



UNIVERSAL Model A-47

Available with 5 to 12 spouts to handle fractional ounces up to gallons. Equipped with 8 ft. stainless steel "speed" adjusting container track and automatic overflow.

Write today for catalog of complete mrm line.

Dept. MP-10

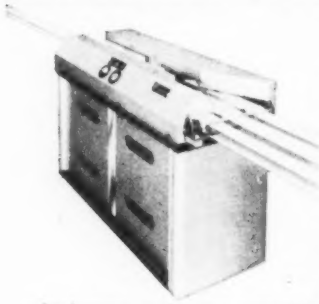
mrm COMPANY, INC.

191 Berry Street, Brooklyn 11, N. Y.

Manufacturers of a complete line of fully automatic and semi-automatic liquid filling and labeling equipment.

are profits dribbling through your fingers due to inefficient package weighing?

SELECTROL weighs, sorts, and counts every package



Checkweighs every package right in your production line. Eliminates deliberate overfill to insure full weight.

SELECTOR weighs in motion without spillage or interruption to production flow. Out-of-tolerance units are smoothly diverted to over and under weight channels, correct weight packages continue on without further handling.

Constant checkweighing with SELECTROL, in contrast to occasional spot checking, provides more accurate control of processing and filling operations. Eliminates product waste and decreases manual labor required to make corrections

Let our weight control specialists conduct a free survey of your weighing problem. Write for Bulletin 3269.

Find us in your local 'Yellow Pages'

Exact Weight SCALES

Sales and Service Coast to Coast

THE EXACT WEIGHT SCALE CO.

914 W. FIFTH AVE., COLUMBUS 8, OHIO

In Canada: P.O. Box 179, Station S, Toronto 18, Ont.

BETTER QUALITY CONTROL . . . BETTER COST CONTROL

Flexible Packaging Competition winners

Winner of "Best of Show" and recipient of the President's Plaque in the recent Second Annual Flexible Packaging Competition was Boyertown Packaging Service Corp., Boy-

Top winner at NFPA competition was Boyertown's Cedaroma bag.

ertown, Pa., for their Cedaroma Garment Bags packed in flexographic printed cellophane bags. The competition, held Sept. 30 at White Sulphur Springs, W. Va., was co-sponsored by the National Flexible Packaging Assn. and *Paper, Film and Foil Converter* magazine. It was held in conjunction with NFPA's annual meeting.

A total of 71 awards was made at the meeting. Since awards were presented both for package construction and major end-use classifications, duplicate prizes were given in several instances. In all, 48 packages were singled out for honors.

Boyertown's bags, while less colorful and glamorous than others, was felt by the judges to rate highest in essential merchandising fea-

Full-color flexographic tone work on polyethylene was a standout.

tures. The Cedaroma packages also won First Award in the Cellophane Bags end-use classification and First Award in the Household Equipment and Supplies class. Family design of the bags, made of 450 MSD cellophane, is imprinted with the four types of storage bags. Metal grommets permit wire rack display.

Flexographic printing was used on 28 of the winning packages, gravure on 17 and letterpress on three. Definite progress in design and technical factors was noted by the judges of the competition.

Flexographic tone work in full color was demonstrated on a polyethylene bag for gladioli bulbs, made by the Shellmar-Betner Division of Continental Can Co., Mt. Vernon, Ohio. This bag, produced for Springtime Bulb Farms, Inc., Lebanon, Ohio, has a transparent area which reveals the size and quantity of the bulbs enclosed. The range of tones and colors reproduced, according to the judges, represents a new advance in polyethylene printing. This bag received an Honorable Mention in the Polyethylene Bags and Pouches category.

According to John M. Cowan, NFPA's managing director, many fine examples of color coding to distinguish quickly different varieties, types and sizes of products were among the prize winners, demonstrating the ease of color changes in flexible packaging materials. Also noted was the greater attention now being given to pricing panels, use information, recipes and opening instructions or devices to improve consumer convenience. There were also several examples of gold printing by the flexographic process, heretofore largely limited to gravure or letterpress techniques.

Deeper penetration of certain markets, especially textiles, was apparent. Many examples showed improved economy of this type of packaging over previously used packages. In one case, a polyethylene extrusion coating on foil replaced a heat-seal coating, achieving much higher packaging speed.

The entries indicated that heat-and-eat packaging continues to gain. Also gaining is the variety of laminated and coated materials that can safely and economically preserve highly sensitive foods, drugs and chemicals.

Continental Can Co.'s Shellmar-Betner Div. was the leading award winner, numerically, closely followed by Milprint, Inc., Milwaukee; Boyertown Packaging Service Corp.; Crown Zellerbach Corp., San Leandro, Calif.; The Dobeckmun Co., Cleveland, Ohio; Reynolds Metals Co., Louisville, Ky., and Arkell & Smiths, Canajoharie, N. Y.

don't let your sales manager be a

"PACKAGING ORPHAN"

In your company he may be called the Sales Manager . . . or the Merchandise Manager . . . or the Distribution Manager; the title isn't important. The chap we're talking about is the one whose interest in the packaging function sometimes may be considered secondary, while the successful completion of his duties depends in a significant measure on the appearance of your company's packages and the protection they give to your products.

If this man, whatever his title may be, doesn't get his own personal copy of Modern Packaging every month to keep him up-to-date, you've a "packaging orphan" on your hands. While he should be, he probably *isn't* up on all the latest techniques of package merchandising, on how to package to obtain sales in multiple units, on what's "hot" in protective and decorative packaging. . . .

Modern Packaging isn't a cure-all for this man, but it will keep him posted on the important packaging developments he ought to know about. A twelve month subscription—including the famous annual Encyclopedia Issue—for him costs only $7.00 in the United States and Canada, $20.00 elsewhere. Write today; we'll enter his subscription immediately and bill your company later.

SUBSCRIPTION DEPARTMENT

MODERN PACKAGING

575 Madison Avenue
New York 22, N. Y.

Are supermarkets happy? Not by a long shot!

[*Continued from page 123*]

specialties (pies, dinners, etc.)
Better and brighter labeling.
Stronger packages
Groceries:
Better price-marking spots
Improved labels
Better product visibility
Better stacking
Multipacks
Stronger packages
Uniform sizes
Health and beauty aids:
Reduce pilferage by carding or boxing small items
Reduce breakage through use of plastics, metals, partitions, etc.
Brighter packages to compete with food items
Housewares:
More and better packaging
Reduce pilferage by carding or boxing small items.

Multipacks

According to 56% of the retailers, the future is bright for multipacks, which are registering increasing favor for beverages, soap and canned foods. They find that multipacks bring larger unit sales and increase total sales, therefore realizing greater profits. They build repeat sales, give the shopper a price advantage, provide retailer and consumer convenience.

On the negative side, retailers find some multipacks take up too much shelf space, are not sufficiently strong and are sometimes used for combinations that do not offer real savings to the consumer.

Store men were asked to rate seven commonly used package forms for protective and handling qualities, and for merchandising and promotional values. These were rated on such qualities as stacking, space saving, price marking, product protection, pilferage, display, illustrative appeal, brand identification, picturing the product in use, product information, etc. The types of packages considered were folding boxes, metal, glass, waxed containers, film, plastics and foil. The data were tabulated on bar charts.

Interestingly, these show that the three big-volume-use packages—folding boxes, metal and glass—ranked highest on all of the 12 points, with folding boxes in this survey showing up first on 11 out of 12.

As might be expected, metal and glass ranked highest on product protection, but glass had to take a back seat to cartons and metal on ease of stacking. Films and plastics received good ratings on display, but were rated more vulnerable to pilferage.

Especially significant is the emphasis placed on newer merchandising values of packaging in food-store operation in contrast to protection and handling features, which have long been, and will continue to be, a familiar concern of supermarket operators.

In instance after instance, retail operators mentioned as the most important elements in giving a package real sales impact: a picture of the product in use, the brand name, visibility of the product in the package, the picture of the product itself on the package and high visibility of product name.

Bag your products faster and easier with the Anderson Model 134 Bagger. The stainless steel bag trough will hold up to 200 bags . . . adjusts quickly for bag size. Blower, equipped with air filter, opens bag and keeps it free of foreign matter. Adjusts for height, and will tilt to the most convenient operating position. Quality made, of the finest materials for long life.

Anderson

Write for Bulletin 10-29 Today!

ANDERSON BROS. MFG. CO.
ROCKFORD, ILLINOIS

HAMMER BRAND
TRADE REG. U.S. PAT. OFF

Tailor-Made Papers for Protective Packaging
Flexible or Semi-Rigid for Cushioning

GLASSINE and GREASEPROOF for CONVERTERS

SPECIAL GRADES and SHADES

NON-PLASTIC SEMI-PLASTIC FULL-PLASTIC

Super Greaseproof
TRANSPARENT • OPAQUE
AMBER • COLORS

Moistureproofed

Air Tight When Sealed

Single Ply WAXED • TREATED • COATED
Duplex • Triplex
WAX LAMINATED • GLUE MOUNTED
to Glassine • Foil • Kraft • Sulphite

Inquiries invited from Converters
80 Years of Quality and Service

THE HAMERSLEY MFG. CO.
PAPERMAKERS

Industrial packaging

[*Continued from page 113*]

corrugated container that permits users to keep stacks of reeled bulk tubing right at the production line ready for use, simply by slipping off the drum head and sleeve. The new package eliminates the nuisance of disposing of former wood crates and reportedly represents savings all along the line.

Economies

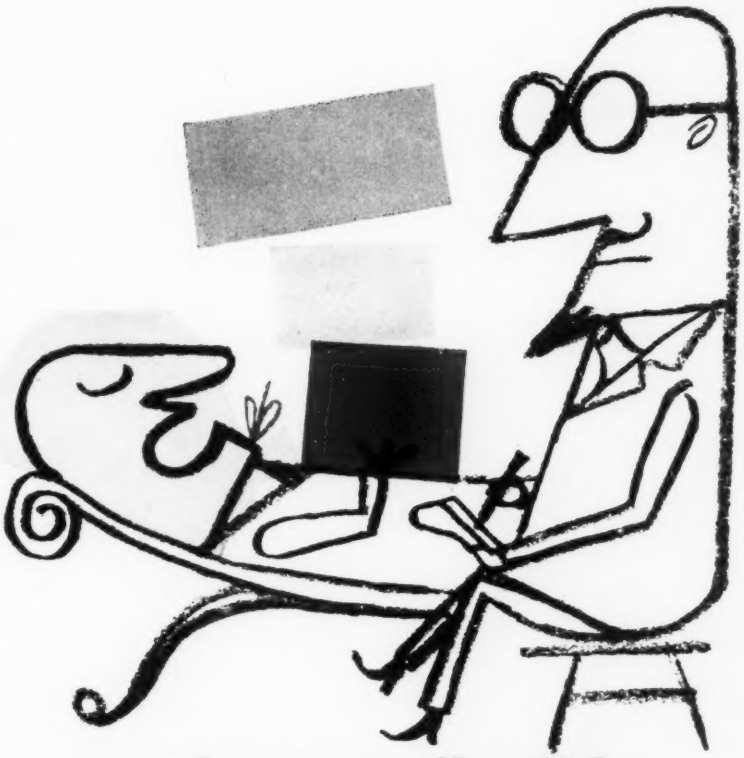
Spectacular cost savings are being shown as the result of prefabricated packing units, the use of modern tools and careful studies of users' requirements.

John Deere Spreader Works, East Moline, Ill., reports that it has cut by 59% the over-all cost of packing hand shellers for export by using wholly prefabricated wirebound boxes, engineered for packing two shellers at a time. One 136-lb. sheller is secured with two carriage bolts to the bottom of the box and the other is similarly secured to the top so that it stands upside down. The box consists only of the bottom, top and a one-piece wirebound blank that forms the four sides. It requires no interior packing or blocking. It cuts packing man-time for the two shellers from 75 to 48 minutes in comparison with former boxes made to order in the company's own carpenter shop as needed, often resulting in congestion while waiting for containers.

A new carton-closing operation reportedly effects a 50% saving in material costs at Odin Stove's Republic Heater Div. plants, as well as cutting man-hours, by using new corrugated containers closed with air-operated staplers.

Indianapolis Glove Co. had an opportunity to cut packaging costs on work gloves substantially as the result of a change in store-level merchandising. To facilitate self service, most work gloves are now sold from display racks or trays, making colorful display cartons unnecessary. Indianapolis Glove Co. now uses a duplex kraft paper bag in three sizes for dozen units of gloves of different styles. A simple metal former is used to load stacks of gloves into each bag, taped shut and packed 12 to a container for shipment.

New package constructions also mean greater efficiencies. The poly-



maybe your flexible packaging needs analysis . . .

If your packaging is the shy, retiring type . . . or if it seems to leave the customers cold . . . or even if you have a vague, undefined anxiety about it . . . let us analyze it in the light of our 30 years' experience in creating forceful packaging personalities . . . designed to sell!

Putting zing into packaging is our specialty . . . a kind of magic we've been performing consistently for many of America's best known and best-selling products. We fabricate in virtually *every flexible material*—foil, film, laminates, paper, glassine, parchment, etc. Why not get in touch with us. We like nothing better than talking packaging problems—*your* problems!

Oneida
PAPER PRODUCTS, INC.
10 Clifton Blvd., Clifton, N. J.
Los Angeles, Cal. • Baltimore, Md. • Centralia, Ill. • Sales Offices In Principal Cities

CONVERTERS AND COLOR PRINTERS OF QUALITY PACKAGING
from: Glassine, Cellophane, Polyethylene, Vinyls, Parchment, Sulphite, Foil, Kraft, Waxed, Coated and Laminated Materials

Shampoos belong in PLAX bottles

Some things are made for each other. A good shampoo and a Plax squeeze-bottle, for example. The bottle feels light and easy in your hands, you can grip it firmly, set it down anywhere (no harm if it drops). It's equally at home in the shower or at the wash basin; puts the shampoo right on your scalp where you want it.

If you have children, you know what it means to have soft and unbreakable containers for every-day products. And when you travel, Plax bottles are ideal.

Many smart manufacturers offer you shampoos (and many other products) in Plax bottles. Look for their products.

PLAX CORPORATION • P.O. BOX 1019 • HARTFORD, CONNECTICUT PLAX

and these shampoos are...

ethylene film bag in corrugated carton is making a sweeping change in the shipping of liquids and semi-liquids, such as dairy products, putty, mastic and animal foods. These lightweight, disposable containers appear to be replacing cumbersome, heavy, returnable containers. They eliminate storage space, bothersome deposits and returns, not to mention cleaning and reconditioning.

Their growing importance is indicated by the guide for shippers using this type of containers made available by the Fibre Box Assn., detailing bag constructions and materials suitable for various products and the types of boxes to be used.

Along the same line, a lightweight container attracting attention for battery acids and other corrosive chemicals is a molded thin-gauge polyethylene cube in a carton that supposedly has outstanding advantages of space saving, light weight and easy disposability.

Increasing use of printed film in industrial packaging is indicated by the printed polyethylene wraps Belden Mfg. Co., Chicago, uses to wrap reels of wire and cables. The film has replaced paper, the company says, because of its moisture protection, strength and transparency which has decided merchandising advantages that enables customers to select type and color by product visibility.

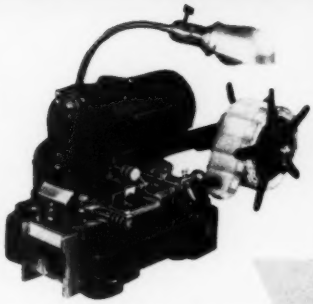
Test methods

"They guarantee safe delivery to the next town or the North Pole." That is the *modus operandi* of the Packaging Standards Center at the U. S. Army Signal Depot, Tobyhanna, Pa. In essence it typifies the extremes to which package technology must extend today to prove performance under all conditions. The use of laboratory apparatus such as vibration, drum, impact and compression testers is the rule today rather than the exception, as are modern weather-making devices to simulate every climatic condition in the laboratory.

From these test methods are coming the performance data necessary to write the exacting specifications for today's packages—specifications that are aiming for 100% arrival in perfect condition, not only of military shipments, but for all manner of civilian goods.

ONE MACHINE Marks Labels You Use for

- Shipping
- Box-Ends
- Price Marking
- Packaging
- Identification
- Stock Control



SOABAR'S MODEL 22 LABEL MARKER

lets you handle imprinting jobs in your own plant . . . eliminating costly ticket wastes and delays! Automatically marks, cuts, counts and stacks (or rewinds) labels at the rate of 144 per minute! Optional "Turn-Wheel" registers speed marking! Change information up to 21 characters at the flick of a finger . . . without resetting type! Custom-built to your specifications, with durable steel engraved wheels.

MARK ALL THESE LABELS

. . . and many other sizes and styles of gummed and ungummed litho, heat-seal, and Quick-Stick (pressure sensitive) labels . . . on the versatile Model 22!

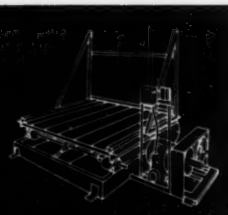
For information and a no-obligation demonstration, contact your Soabar representative, or write:

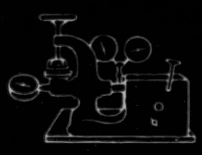
SOABAR COMPANY

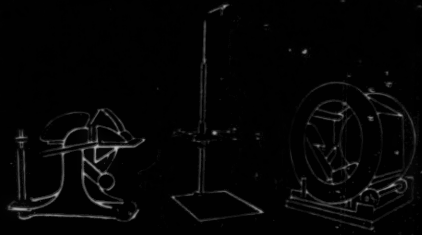
Ticket & Label Marking Equipment & Supplies Since 1912

4221 Van Kirk Street • Philadelphia 24, Pa.

HOT STRONG IS STRONG







Don't buy or sell boxes, cartons or any shipping containers unless they are tested for strength by a TMI package tester.

This will avoid any loss of your time or money and will assure you that your product arrives in perfect condition.

TMI, well known for testing instruments, carries a complete line of testers such as: Compression, Vibration, Revolving Drum, Conbur, Puncture, Drop and all other testers for component parts. These instruments are reasonably priced, highly accurate, easy to operate and cost little to maintain.

All technical specifications are met.

Write today for our PACKAGE TESTING Catalog and find out how your package can be made to "take it."

tmi TESTING MACHINES INC.

123 West 64th Street, New York 23, New York

Manufacturers and Distributors for over 30 years

HELPFUL BOOKLETS FREE!

MOLDED PULP FOR PACKAGING. 28-page catalog describes uses of company's molded pulp as both packaging and packing material. Gives illustrations and specifications for food containers and trays made of molded pulp. Keyes Fibre Co. **(J-759)**

HEAVY DUTY VIALS. Illustrated data sheet describes transparent acetate vials, designed for heavy duty protective packaging applications, such as for ball bearings and instruments. Extruded Plastics, Inc. **(J-760)**

GIFT BOXES. Illustrated folder gives specifications for line of stock paper boxes, including hinged cover, satin lined, paper lined types. Oscar Trilsch Co. **(J-752)**

BATCH COUNTER. Illustrated folder describes electronic unit that counts and batches items such as tablets, pills, capsules, beads, at average speeds of 1200 to 1500 a minute. The Burnet Co. **(J-762)**

ROTARY LIQUID FILLER. Data sheet describes rotary vacuum filling machines for liquids that operate at speeds from 96 to 125 quarts a minute for gallon, half-gallon, or smaller containers. International Filling Machine Corp. **(J-769)**

Any of the booklets described here plus many others—forty-two in all—are available for the asking, without charge or obligation.

Just turn to the Manufacturers' Literature page in this issue (it's printed on heavy paper), circle the numbers corresponding to the booklets you want, fill in the reply postcard, and mail. No postage needed.

We'll see that you get the literature you request promptly.

A Service of

MODERN PACKAGING

A Breskin Publication

575 Madison Ave., New York 22, N.Y.

Alcoa opens foil-research division

With one of its objectives development of "an endless list of container and packaging possibilities," a research facility to serve the foil and packaging industries has been inaugurated by Aluminum Co. of America, Pittsburgh.

Known as the Foil and Packaging Division of Alcoa Research Laboratories, the new division is located in New Kensington, Pa. Alcoa's Packaging Evaluation Laboratory has been moved to New Kensington as an adjunct of the company's new operation.

Objectives of the Foil and Packaging Division are further outlined by Dr. Kent R. Van Horn, director of ARL: "For a number of years Alcoa has done exhaustive research in aluminum foil and packaging. However, not until now has this phase of the company's operation been brought together at a single location and expanded to the degree contemplated.

"This new division will operate for the benefit of all present and prospective users of aluminum foil. Entirely new concepts in the field will be explored thoroughly . . . We're confident the effort will result in foil uses undreamed of today."

The new laboratory already is at work on foil-use ideas for the packaging, food-processing and pharmaceutical industries, among others.

In addition to its research operations, says Alcoa foil-product sales manager J. S. Hamilton, the new division will help solve the foil problems of Alcoa customers. This service factor will be strongly emphasized, he reports.

Film bags protect seeds in storage, transit

A major seed-storage problem is that poorly protected seeds quickly sprout or decay. But the development laboratories of Bakelite Co., a division of Union Carbide Corp., New York, have come up with a Bakelite polyethylene bag in which seeds may be stored under almost any conditions without losing their viability.

The labs found that film 0.005 in. thick offers sufficient moisture resistance to provide a four-fold increase in storage life over seeds stored in conventional packages. Moreover, the bags survive rugged handling procedures.

The 50- to 100-lb. bags are made of tubular stock. Sealing is accomplished by gathering the polyethylene at the top of the bag and fusing it with a hotplate. The solid knob thus formed also acts as a handle for the bag.

Plastic cork for champagne

[*Continued from page 137*]

years that the bottle may rest on a dealer's shelf. Arriving at a stopper design that would meet this requirement and at the same time adapt itself to existing wire-hood machines has taken more than two years of trial-and-error development.

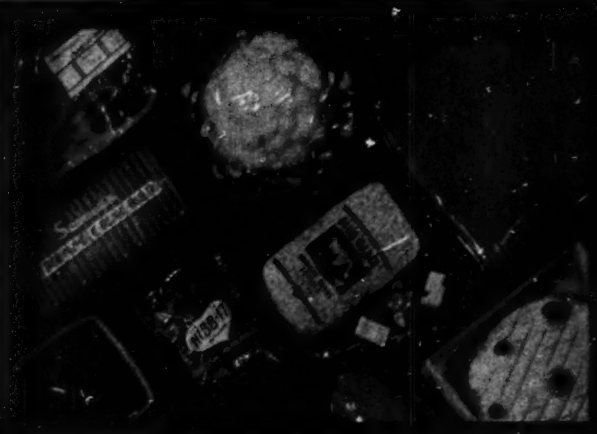
The stopper used by Almaden represents the fourth complete redesign during this period. Horizontal ridges around the stopper stem were developed to act as a series of gaskets along the inside of the bottle neck. The wall thickness of this section, molded as a hollow cylinder, proved to be critical. If the cylinder wall were too thin, the plastic would "cold flow" down into the bottle, elongating the cylinder and weakening the sealing pressure against the inside of the bottle neck. A polyethylene had to be found to eliminate the molding problems that at first had resulted in a high level of "leakers."

Initially, market tests were run by Almaden using both white and brown plastic stoppers. It soon developed that the brown color drew an immediate, unfavorable comment on the use of a substitute material, whereas the honesty of the simple, polyethylene white led to an over-all favorable reaction.

Polyethylene champagne corks were first developed and extensively used in France and Germany. Today they are made by several U. S. plastic molders. This year an estimated 5,000,000 bottles of champagne will be corked with polyethylene in California alone.

These goods sell on sight . . .

in CELLOPHANE*



B.C.L.
in POLYTHENE

in ACETATE

BRITISH CELLOPHANE LIMITED

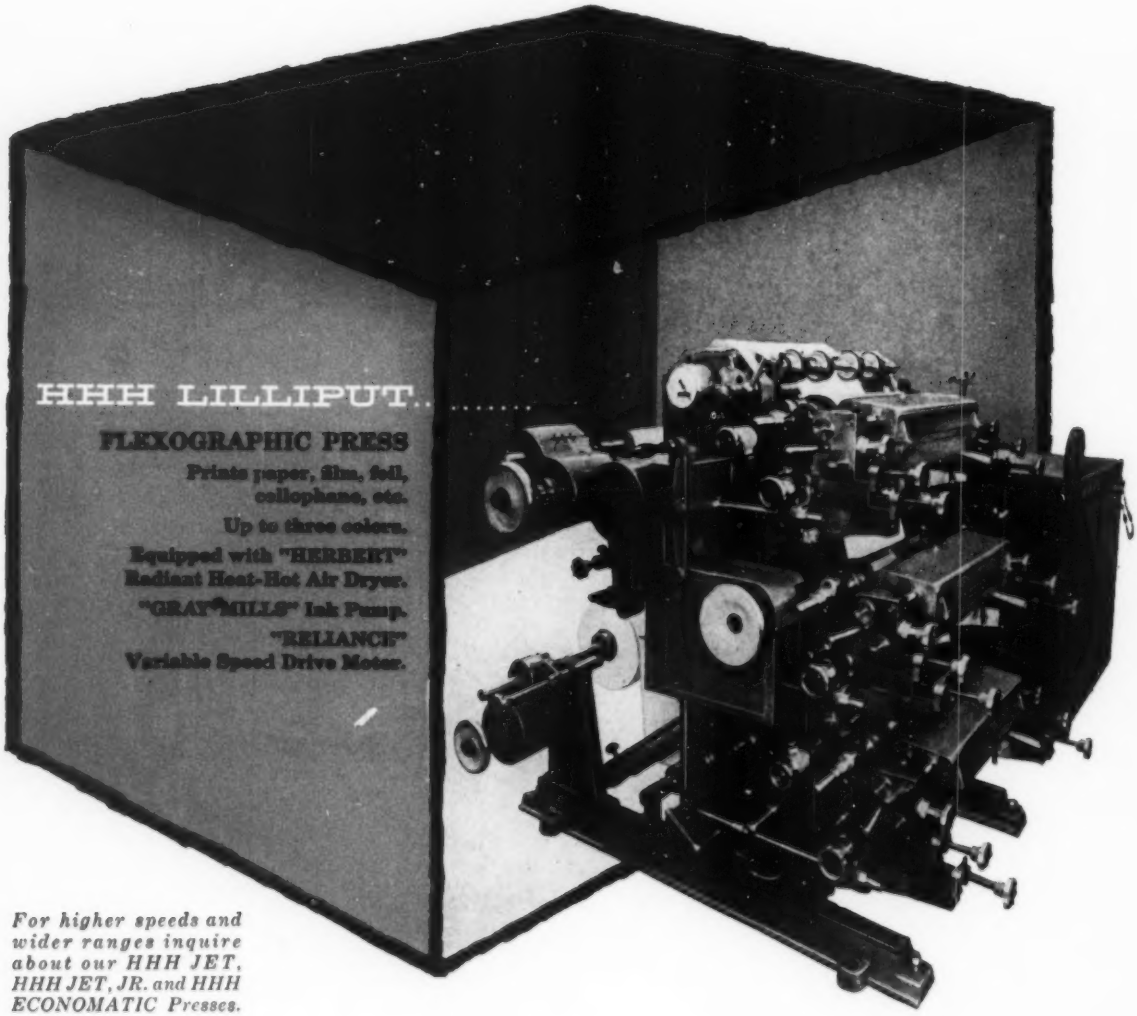
SPECIALISTS IN FLEXIBLE TRANSPARENT PACKAGING MATERIALS

Commercial Office:- 12-13, CONDUIT STREET, LONDON, W.1, ENGLAND

*CELLOPHANE is the registered trade mark of British Cellophane Limited, in the following countries: Great Britain, Australia, Ceylon, Cyprus, Denmark, Eire, Gibraltar, Hong Kong, Iceland, India, Jamaica, New Zealand, Pakistan, Northern Rhodesia, Southern Rhodesia, Trinidad and Tobago, and the Union of S. Africa.

A COMPLETE "PACKAGE" Printing Plant in a Single Press!

Do your own Printing with this Complete Printing Unit . . . Moderately Priced . . . Ready to Run.


HHH LILLIPUT
FLEXOGRAPHIC PRESS
Prints paper, film, foil, cellophane, etc.
Up to three colors.
Equipped with "HERBERT" Radiant Heat-Hot Air Dryer.
"GRAY-MILLS" Ink Pump.
"RELIANCE" Variable Speed Drive Motor.

For higher speeds and wider ranges inquire about our HHH JET, HHH JET, JR. and HHH ECONOMATIC Presses.

Converters, printers, any plant that can use short run production profitably can use the HHH LILLIPUT to advantage. See this versatile press demonstrated at our New York show room or send for specifications, prices and deliveries.

H. H. HEINRICH COMPANY

111 EIGHTH AVENUE NEW YORK 11, N. Y.

1. SELECT the items you want
2. CIRCLE the corresponding numbers on the post card
3. FILL IN the information requested
4. MAIL — no postage required

HELPFUL LITERATURE FREE

There is valuable data — worth dollars and cents to you — in the literature and samples described below.

EQUIPMENT • SUPPLIES • SERVICES

FIBRE CONTAINERS. Illustrated literature describes line of fibre tubes, metal closures, and string openings for fibre containers. Sefton Fibre Can Co. (J-751)

GIFT BOXES. Illustrated folder gives specifications for line of stock paper boxes, including hinged cover, satin lined, paper lined types. Oscar Trilsch Co. (J-752)

PACKAGE DESIGN VISIBILITY. Literature describes testing device that measures visual characteristics of package design such as visibility of trade marks, color, typography. Container Laboratories, Inc. (J-753)

POLYETHYLENE RESIN. Illustrated folder describes packaging applications for company's "Alathon" polyethylene resin suitable for use in molded containers, film, coatings. E. I. du Pont de Nemours & Co. (J-754)

GLASS VIALS. Illustrated folder describes line of vials available with plastic snap-cap in sizes ranging from 1 to 12 drams. Owens-Illinois. (J-755)

TAPE APPLICATIONS. 42-page brochure illustrates wrapping, bundling, protecting, bag sealing, canister sealing, unitizing applications possible with company's pressure-sensitive tape. Permacel Tape Corp. (J-756)

BEADING PLASTIC SHEET. Illustrated folder describes principal features, applications for automatic unit for continuous straight-edge beading of thermoplastic sheet. Taber Instrument Corp. (J-757)

STAYERS FOR SET-UP BOXES. Folder describes machine that applies thermoplastic quad stayers to set-up boxes of a wide size range. Shows principal features and gives specifications. Kingsbury & Davis. (J-758)

MOLDED PULP FOR PACKAGING. 28-page catalog describes uses of company's molded pulp as both packaging and packing material. Gives illustrations and specifications for food containers and trays made of molded pulp. Keyes Fibre Co. (J-759)

HEAVY DUTY VIALS. Illustrated data sheet describes transparent acetate vials, designed for heavy duty protective packaging applications, such as for ball bearings and instruments. Extruded Plastics, Inc. (J-760)

PACKAGING EQUIPMENT. Illustrated folder describes company's bag making machine, rewinder and slitter, printing presses. Specifications included. Manhasset Machine Co. (J-761)

BATCH COUNTER. Illustrated folder describes electronic unit that counts and batches items such as tablets, pills, capsules, beads, at average speeds of 1200 to 1500 a minute. The Burnet Co. (J-762)

RE-USABLE PLASTIC CONTAINER. Illustrated folder describes re-usable polyethylene jar, with snap-seal cover available in pint, 1½ pt., quart sizes, transparent or in colors. Burlington Molding Corp. (J-763)

UNIT PACKAGES. Illustrated literature lists features of machine that automatically forms, fills and seals unit packages for tablets, powders, liquids, small objects in heat sealable material. Mercury Heat Sealing Equipment Co. (J-764)

HEAT SEALING CRIMPERS. Illustrated folder shows units that crimp and seal envelopes and bags. Units available with 9 and 14 in. jaws in several sealing patterns. Wrap-Ade Machine Company, Inc. (J-765)

GUMMED PAPER SAMPLES. File folder sample book contains swatches of company's gummed paper, fluorescent coated papers. Lists roll widths, colors available. Mid-States Gummed Paper Co. (J-766)

FOOT-OPERATED JAW SEALER. Illustrated folder shows jaw assemblies, operating features of a foot-operated sealer for film, cellophane, paper, foil. Doughboy Industries, Inc. (J-767)

GUMMED TAPE DISPENSERS. Literature provides data on line of gummed tape dispensers for a wide variety of sealing applications. Prices included. Derby Sealers, Inc. (J-768)

ROTARY LIQUID FILLER. Data sheet describes rotary vacuum filling machines for liquids that operate at speeds from 96 to 125 quarts a minute for gallon, half-gallon, or smaller containers. International Filling Machine Corp. (J-769)

EDGE COATERS. Illustrated literature describes features of line of machines that edge-coat paper and similar materials with liquid adhesives. Potdevin Machine Co. (J-770)

PACKAGING SEMI-FREE FLOWING PRODUCTS. Illustrated folder describes company's machine that handles up to 60 bags a minute for packaging such products as potato chips, peanuts, and other semi-free flowing products. The Woodman Company, Inc. (J-771)

STATIC NEUTRALIZER MANUAL. 8-page illustrated manual discusses the various methods employed to neutralize static electricity on sheeting and film. Describes the "Magic Wand" neutralizing technique with diagrams and installation data. Herman H. Sticht Co. (J-772)

Fill out and mail this card now

MODERN PACKAGING
MANUFACTURERS' LITERATURE SERVICE

Please send me the free items circled below. ☐ **I am a non-subscriber*** **I am** ☐ **a subscriber**

J-751	J-752	J-753	J-754	J-755	J-756	J-757	J-758	J-759	J-760	J-761
J-762	J-763	J-764	J-765	J-766	J-767	J-768	J-769	J-770	J-771	J-772
J-773	J-774	J-775	J-776	J-777	J-778	J-779	J-780	J-781	J-782	J-783
J-784	J-785	J-786	J-787	J-788	J-789	J-790	J-791	J-792	J-793	J-794

*If you do not have a personal subscription and would like to receive the next twelve monthly issues plus the next annual Encyclopedia Issue (U.S.A. & Canada, $7.00; all others, $20.00) please check here

☐ Check enclosed ☐ Send bill

NAME ..... **POSITION** .....
(Please Print Plainly)

COMPANY .....

STREET ..... **CITY** ..... **STATE** .....

(This card cannot be honored after January 15, 1957)

FREE HELPFUL LITERATURE

There is valuable data—worth dollars and cents to you—in the literature and samples described below.

1. SELECT the items you want
2. CIRCLE the corresponding numbers on the post card
3. FILL IN the information requested
4. MAIL—no postage required

EQUIPMENT • SUPPLIES • SERVICES

PROTECTIVE PACKAGING MATERIAL. Illustrated folder describes "Packit", a cotton wadding suitable for cushioning, surface protection. Available in sheets, rolls or fabricated for specific use. The Stearns & Foster Co. (J-773)

RIGID PLASTIC CONTAINERS. Catalog describes line of stock boxes available in clear, colored, opaque, multi-colored spray and etched varieties. Prices included. Harkin Affiliates. (J-774)

FIBRE CONTAINERS. Folder illustrates line of metal capped convolute and spiral fibre cans with can tops such as pouring spout, pouring plug, and semi-perforated types. Cleveland Container Co. (J-775)

FILM EXTRUDERS. 16-page catalog describes line of extruders with 1¾ to 12 in. diameters, suitable for extruding film and sheet. Includes illustrations of accessory equipment such as pull-off units. Hartig Engine & Machine Co. (J-776)

SPECIALIZED PRINTING MACHINES. Illustrated booklet describes hand-operated and automatic printing presses available in single or multi-color models for printing labels and other marking on metal, plastic, fibre, wood, rubber surfaces. International Marking Machine Co. (J-777)

ASSEMBLING CORRUGATED TRAYS. Illustrated folder describes unit that automatically forms corrugated trays from blanks up to 28 x 34 in. at speeds from 15 to 30 a minute. Huntingdon Industries, Inc. (J-778)

INDUSTRIAL SCALES. 8-page illustrated booklet describes and contains specifications for line of "Shadograph" scales with illuminated dial weight indicator mechanism. Models available with 2,000 mg. to 100 lb. capacities. The Exact Weight Scale Co. (J-779)

COLOR REGISTER CONTROLS. 8-page illustrated booklet provides detailed description of automatic color register control for web-fed printing presses. Operates at press speeds of 1,000 to 60,000 impressions per hour. Cline Electric Manufacturing Co. (J-780)

MULTI-USE PRINTED TAPE. Folder describes pressure-sensitive printed tape suitable for point-of-sale merchandising, product identification, numbering, marking. York Tape Printers, Inc. (J-781)

MOLD-RESISTANT PAPER. 8-page discussion of fungi and their effect upon deterioration is printed on company's mold-resistant paper. Mosinee Paper Mills Co. (J-782)

STOCK PLASTIC CONTAINERS. Illustrated catalog describes lines of rigid plastic containers, including boxes, trays, jars available clear or in colors. Also shows formed acetate domes and slide-cover boxes. Oppenheim Co. (J-783)

PACKAGING AND BOTTLING EQUIPMENT. 8-page catalog describes line of pneumatic machines, including models for carton feeding, powder filling, vacuum filling, capping, heat sealing, weighing and wrapping. Pneumatic Scale Corp. Ltd. (J-784)

CAPPING MACHINERY. Folder illustrates and describes line of automatic semi-automatic screw cappers and can sealers. Cappers with speeds up to 200 a minute included in line. Resina Automatic Machinery Company, Inc. (J-785)

TRANSPARENT PLASTIC PACKAGES. Folder describes "blister", tray, partition, slide-cover pack, and sleeve packages custom formed by this Illinois company. Plastofilm, Inc. (J-786)

PHOTOELECTRIC CONTROL SYSTEM. 16-page booklet describes company's photoelectric controls and provides diagrams of typical applications in packaging, counting, weighing and general applications. Ess Instrument Co. (J-787)

METAL SHIPPING DRUMS. 8-page booklet describes tighthead, removable head, and galvanized metal shipping containers. Southern States Iron Roofing Co. (J-788)

BAG AND CASING TYER. Illustrated literature describes semi-automatic machines that pleat plastic bags and casings, and apply aluminum band closures. Tipper Tie, Inc. (J-789)

PRINTING INKS. Folder describes ink service for lithography, letterpress, flexography, gravure. Customer retains stock supply on hand, and prepares ink from compounding information provided by company. Crescent Ink & Color Co. (J-790)

CASE PACKER-SEALER. Literature describes automatic machine that opens and forms cases, accumulates contents, inserts, glues and seals. Unit occupies 16 ft. x 30 in. area. Schroeder Machines Corp. (J-791)

COLLAPSIBLE TUBES. 16-page catalog pictures, gives specifications and describes uses for extensive line of tin, lead and aluminum single- and multi-use, lined and unlined collapsible tubes and shells. Also covered are a wide variety of special-purpose tube openings, strips, closures, applicators, spouts, and metal can spouts. Standard Collapsible Tube Co. (J-792)

PLASTIC CONTAINERS. Illustrated folder describes line of stock rigid polystyrene vials and flexible cellulose acetate vials, available threaded, in a variety of sizes. Celluplastic Corp. (J-793)

Fill out and mail this card now

Postage Will be Paid by Addressee

No Postage Stamp Necessary If Mailed in the United States

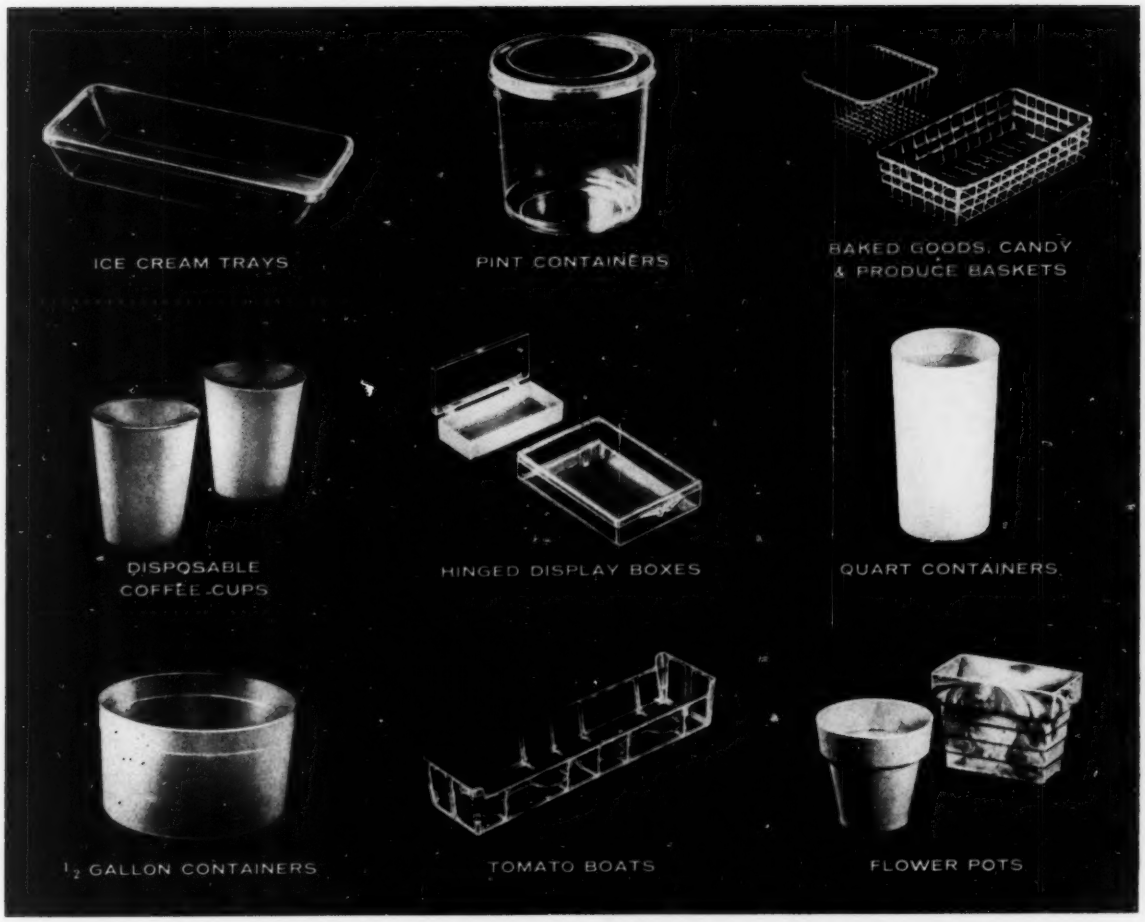
BUSINESS REPLY CARD

First Class Permit No. 2656 (Sec. 34.9, P. L. & R.), New York, N. Y.

MODERN PACKAGING

Village Station Box No. 103

New York 14, N. Y.



You can mold CONTAINERS automatically on REEDS

REEDS offer you all these advantages in container molding:

- *High-speed, low-cost molding*—produce up to 1,200 pint containers an hour.
- *Engineered for fully automatic operation*—can feed directly to production or packaging line.
- *Greater versatility*—long-stroke REEDS handle deep-draw containers.
- *Rugged construction*—built for continuous, high-speed molding.
- *Low maintenance cost*—simplified design makes all operating parts readily accessible.

Call on Reed-Prentice, a subsidiary of Package Machinery Company, today for descriptive literature and full details on the complete line of REED injection molding equipment.

If you buy containers and would like the names of competent molders in your area, write to us at Worcester. There is no obligation.

[redacted]

Affiliate of

PACKAGE MACHINERY COMPANY

677 CAMBRIDGE STREET, WORCESTER 4, MASS.

BRANCH OFFICES: NEW YORK • CLEVELAND • CHICAGO • BUFFALO • DAYTON • DEARBORN • KANSAS CITY • LOS ANGELES

do **your** packages stick their necks out?

The finest package design is that which attracts attention for the product . . . actually makes it stick out in the crowd. Good packaging deserves the best reproduction . . . achieved with "ACME GRAVURE" cylinders . . . ideal for foil, paper, cellophane, paper board products.

We invite your inquiries.

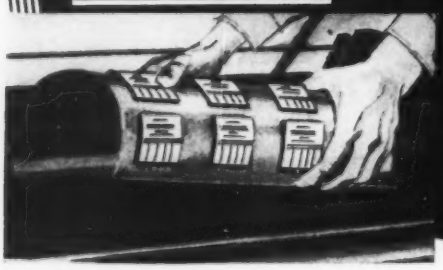
acme gravure services, inc.

1501 West Congress Street Chicago 7, Illinois

Phone: CHesapeake 3-1377

If it's Quality — if it's Delivery — it's **acme**

NOW...SOLVE ALL YOUR RUBBER PLATE PRINTING PROBLEMS with NEW P&D MODULUS CONTROL!



SOLID AREAS!
Uniform, thorough coverage—no mottling or squeezing of ink film!

FINE LINE WORK!
Holds accuracy and sharpness for perfect reproduction every time!

HALFTONES!
Cleaner dot structure . . . sharper detail . . . reduced "halo"!

COMBINATION PLATES!
Made with two durometer hardnesses—one for line, another for halftones!

P & D "MODULUS CONTROL" represents a *new approach* in rubber plate making—*proved* by thousands of field tests to give better impressions, longer wear! Plates made this way require *less pressure* to compress . . . *less time* to return to shape. Result: lighter printing pressure, clearer reproduction, perfect split of ink film!

AVAILABLE IN BOTH P & D INDIVIDUAL "STICK-ONS" AND COMPLETE "MINUTE-MOUNT" UNITS

ASK FOR TECHNICAL BULLETIN

Complete art, typesetting and engraving facilities available

WRITE TODAY for Complete Information and Prices

PRINTING PLATES

PORTER & DUGAS, INC.

Foremost in the Development of Rubber Printing Plates

426 SOUTH CLARK STREET • CHICAGO 5, ILLINOIS

Heinz gift package

The trend toward packaging everyday items for gift sales has been joined by a big national food manufacturer—H. J. Heinz Co., Pittsburgh. The company has made available a gift assortment of 12 of its

famous "57 varieties," packaged in a bright yellow, blue, red and green carton, designed as a year-round business or home gift.

The gift package, called "Treasure of Treats," contains Heinz ketchup, chili sauce, savory sauce, "57" sauce, Campside beans, pork and beans, beef stew, macaroni in cheese sauce, spaghetti, hot-dog relish, sweet cucumber disks and mustard —all packaged in their regular, standard containers.

Heinz is not putting its gift assortment on sale in retail outlets. Sales are via mail order.

Non-foods in supers

More evidence that it behooves makers of non-foods as well as foods to package with an eye to self-selection comes from the latest issue of *Methods and Trends*, published by TCF of Canada Limited, Montreal.

The publication conducted a nationwide survey of housewives' buying habits in Canadian supermarkets. On non-food purchases specifically, the survey shows that 35% of women shoppers buy such items on impulse. And many of these respondents said they now buy non-food staples *exclusively* in supermarkets.

Other survey highlights: 81% of women shop in supers; 56% bulk their shopping in one weekly trip.

For an excellent coat with POLYETHYLENE RESIN

Details on Back

Polyethylene because of its low cost, high water vapor resistance, and excellent heat sealing properties, is becoming more and more popular for moisture barrier applications. It coats practically everything used for flexible packaging of industrial or consumer items. It adheres tightly to papers, fabrics, films and foils. It adds strength, too.

Petrothene paper coating resins have these advantages over many other polyethylenes . . .

- ✓ **HIGHER PRODUCTION RATES**
- ✓ **EXCELLENT ADHESION**
- ✓ **NO ODOR**

Want to learn more about Petrothene? Mail the coupon below.

Polyethylene coatings add strength and moisture resistance in packaging

- chemicals
- cosmetics
- drugs
- foods
- hardware
- industrial parts
- machinery
- textiles
- tobacco
- and many others

USI INDUSTRIAL CHEMICALS CO.

Division of National Distillers and Chemical Corporation

99 Park Avenue, New York 16, N. Y.

I would like more information on PETROTHENE Polyethylene.

My application is _____

Please ☐ send literature

☐ ask a technical representative to call.

NAME _____

TITLE _____

COMPANY _____

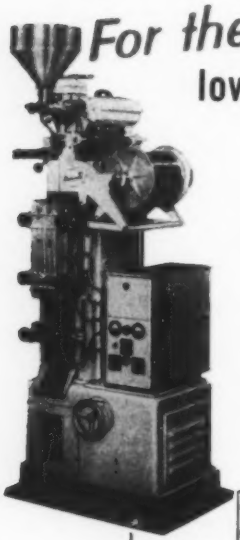
ADDRESS _____

For the consumer-

attractive, convenient packaging

For the manufacturer-

low production costs, versatility, and great flexibility



The Hansella 131 Universal Packaging Machine gives you this double benefit. A high production unit, the Hansella 131 produces fin-seal type packs—the handy, disposable packages that are becoming increasingly popular with today's shoppers.

From the printed roll to the finished, filled bag—done automatically in one operation on the Hansella 131.

	Width of Bag	Length of Bag	Production Rate
Simplex	1½" to 6"	2" to 6"	Up to 60 per minute
Duplex	1½" to 3"	2" to 6"	Up to 120 per minute

PRODUCTS Liquids, semi-liquids, powders, granules and solids.

FEEDS Pump, auger, volumetric feed, and electronic counter are available and easily interchangeable. The change-over can be accomplished in a matter of minutes—a big advantage for contract packagers or for in-plant packagers handling an extensive variety of products.

FILMS All heat sealable, flexible films, including plastics and foils.

WRITE FOR COMPLETE INFORMATION TODAY

Hansella®

HANSELLA-WERKE ALBERT HENKEL A.G.
Viersen, West Germany

HANSELLA MACHINERY CORPORATION
Grand and Ruby Avenues, Palisades Park, New Jersey
Whitney 3-4700 Cable: - COHANSELLA

SIPMHE meeting

The relatively new management technique of "brainstorming" will receive special attention in the program of the 12th annual exposition of the Society of Industrial Packaging and Materials Handling Engineers to be held Oct. 28-31 in Convention Hall, Atlantic City, N. J. Exhibits will open at 12 noon each day. General chairman of this year's exposition is Paul F. Schreck, vice president of the Moto-Truc Co., Cleveland.

A "Brain-storming for Profit" session will be a feature of each day's program. This will be a group-participation session endeavoring to explain the technique of "brainstorming" and its application, and will give those attending the opportunity of engaging in a practice session on a subject of the group's choosing.

Another innovation in the short-course educational sessions, which will run through Oct. 30 in conjunction with the exposition, is the time of the meetings. The three courses offered each day will be given twice, at 9 and again at 11:15 a.m., to allow for maximum attendance.

Subjects for all the courses were selected by means of a survey of SIPMHE membership conducted to determine the "hottest topics" in packaging.

Annual awards in SIPMHE's National Championship Industrial Packaging and Materials Handling Competition will be made this year right in the competition display area in Convention Hall. The award ceremony will take place at 2 p.m. Wednesday, Oct. 30. Cash prizes and a special Certificate of Award will be presented to entries in the following groups: corrugated or solid fibre boxes, nailed wood boxes or crates, wirebound boxes and crates, cleated panel boxes, general, export packages and materials handling.

The "Best of Show" packaging entry will again receive the Harold Jackson Trophy.

In all, 18 sessions will be held on nine varied interests of the industrial packager. Educational sessions will be sponsored jointly by SIPMHE and Temple University. A certificate of short-course attendance will be granted by the univer-

RISDON

STAR

THE RISDON MANUFACTURING COMPANY

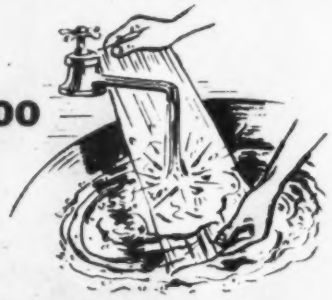
RISDON

Need a super GREASE-PROOF PAPER ?

New types of Patapar provide an absolute barrier to grease and oils

Revolutionary new types of Patapar Vegetable Parchment completely resist penetration. Grease and oils will not spread on its surface. There is no "crawl" — no tendency of wetting by oils.

HIGH WET-STRENGTH, TOO



Permanent high wet-strength is an inherent characteristic of the various types of Patapar. This wet-strength is obtained by parchmentizing the 100% pure cellulose fibers from which Patapar is made.

And, Patapar is NON-TOXIC, odorless, tasteless. It is furnished plain or colorfully printed.

Special Patapars for different needs

Available in several hundred types, Patapar fills an amazing range of needs. Applications include: food wrappers; inner grease-proof ply for multi wall bags and fiber drums; liners for box board food containers; packaging oiled machine parts; industrial filter papers.

Ask us about super grease-proof Patapar 35-21T. Write us on your business letterhead telling the application you have in mind.

Patapar® Vegetable Parchment
HI-WET-STRENGTH · GREASE-RESISTING

OTHER PATERSON PRODUCTS
•PATAX waxed paper
•DURAPAK parchmentized cellulose
•PATERSON absorbent paper
•PARCHRIN oil parchment

PATERSON PARCHMENT PAPER COMPANY
Bristol, Pennsylvania
Sales Offices, New York, Chicago
West Coast Plant: Sunnyvale, California

HEADQUARTERS FOR VEGETABLE PARCHMENT SINCE 1885

sity to registrants in the full course. Full course regristration fee is $30 for SIPMHE members, $40 for non-members. Daily registration fee is $12 for members, $15 for non-members.

Over-all subjects of the nine educational sessions held in addition to the daily "brainstorming" sessions include: technical packaging problems, unitizing and palletizing bulk packs, management problems, warehouse and space utilization, the aircraft packaging story, and handling and distribution. Two of the presentations expected to attract a high degree of interest, judging from the results of the SIPMHE survey, are: "Quality Control of Packaging Materials" by A. A. Ballew, Thompson Products Co., Cleveland, and "Fluidization in Bulk Handling" by R. W. Dolan, Jr., Superior Separator Co., New York, which will comprise the Tuesday session on packaging.

The opening session on packaging will be devoted to two technical discussions: "Practical Approaches to Package Engineering" by C. J. Zusi, a Chicago packaging consultant, and "Cost Reduction in Industrial Packaging" by R. F. Uncles, American Cyanamid Co., New York.

Management topics on the program include: "Top Management—the Cigar-Store Indian" by M. I. Wurman of Bayuk Cigars, Inc., Philadelphia; "Increasing Effectiveness of People"; "Persuasive Communication" by P. G. Burgess, Temple University; "Say What You Mean" by J. B. Roberts, Temple University; "Equipment Financing From the View of the Banker" by Ellsworth Handy, Harris Trust & Savings Bank, Chicago, and "Equipment Financing From the View of the User" by R. R. Major, St. Regis Paper Co., New York.

Cost cutting in handling and distribution will be treated in papers on "New Ways to Cut Distribution Costs Through Integrated Handling" and "New Ways to Cut Distribution Costs Through Modern Transportation."

SIPMHE is urging those planning to attend the short-course sessions to register in advance. More detailed information on the sessions and registration forms may be obtained from C. J. Carney, managing director of the society, Suite 611, 111 W. Jackson Blvd., Chicago 4. Hotel reservations can be made by

writing to NIPHE Housing Bureau, 16 Central Pier, Atlantic City, N. J.

Exhibitors who registered early, and their booth numbers, follow:

	Booth No.
Acme Steel Products Div., Acme Steel Co.	202
American Excelsior Corp.	401
Armed Forces	442
Bischoff Chemical Corp.	408
Candor Engineering Co.	402
C & D Batteries, Inc.	310
Celotex Corp.	219
Cleveland Container Co.	410
Comet Industries	207
Continental Can Co., Inc.	509
Cooper, D. C., Co.	239
Cromwell Paper Co.	341
Derby Sealers, Inc.	416
Eastern Duo Fast Corp.	247
Edison, Thomas A., Industries	332
Exide Industrial Div., Electric Storage Battery Co.	205
Flow Magazine	424
Fox Paper Co.	211
Gaylord Container Corp.	336
General Box Co.	306
Gould-National Batteries, Inc.	231
Hollywood Plastic Arts, Inc.	438
Ideal Stencil Machine Co.	427
Impact-O-Graph Corp.	121
International Staple & Machine Co.	405
Jiffy Mfg. Co.	312
Kimberly-Clark Corp.	335
Loomis Machine Co.	505
Marsh Stencil Machine Co.	501
Moto-Truc Co.	350
National Metal Edge Box Co.	320
National Wooden Box Assn.	201
National Wooden Pallet Mfrs. Assn.	243
Paper Products Mfg. Co.	440
Pettibone Mulliken Corp.	102
Rathborne, Hair & Ridgway Box Co.	249
Sharon Steel Corp., Brainard Steel Div.	302
Shipping Management, Inc.	406
Signode Steel Strapping Co.	246
Stanley Works, Steel Strapping Div.	342
Sten-C-Labl, Inc.	422
Superior Separator Co.	301
U. S. Rubber Co.	619
U. S. Steel Corp., Gerrard Steel Strapping Div.	345
American Steel & Wire Div.	345
Weber Marking Systems, Div. Weber Addressing Machines	213
Weyerhaeuser Timber Co.	215
Wirebound Box Mfrs. Assn., Inc.	236
Wraps, Inc.	426
Yale & Towne Mfg. Co.	206

Cost-Cutting TRIPLE PLAY IN PACKAGING

by Plastic Artisans, Inc.

Winthrop Laboratories Gets Sampler, Sales Package and Bulk Packing From 1 Basic Die

Here's a dramatic example of cost-cutting versatility in self-display packaging by Plastic Artisans, Inc. From one basic die, P. A. gives Winthrop Laboratories' suppositories: (1) A striking, 2-unit sampler combining an opaque, colored plastic tray with a clear, slide cover. (2) A self-display, 5-unit, slide cover sales package. (3) A bulk shipping container made of uncut tray sheets. For further information on Plastic Artisans' package design and production abilities, send for your copy of P.A.'s. "Display Packaging" catalog.

Sampler Package

Sales Package

Bulk Packing

PLASTIC ARTISANS, INC.
Dock Street & Martin Place
Port Chester, New York

PA

Custom-Designed, Mass-Produced packages, package components, sampling devices, etc. in clear, opaque, and colored plastics

PA-11C

PACKAGED BY
HANCOCK MFG., INC., PHILA. 6

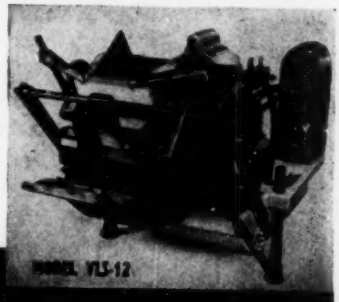
LABELS on BAGS sealed Faster, Better!

The machine with $500 in EXTRA FEATURES at no extra cost!

A heavy-duty heat sealer that is ruggedly constructed for safe, foolproof operation at speeds up to 40 per minute! Folds top of bags up to 12" wide (any length) and attaches a saddle label while sealing — all in one automatic operation! Makes neat, strong seals with cello, poly or saran. High speed motor, full scale vacuum pump and positive spring action on folding bar —

PLUS SIX EXCLUSIVE ENGINEERING FEATURES

WRITE FOR DETAILS!



MODEL VLS-12

MERCURY HEAT SEALING EQUIPMENT CO.
2601 N. HOWARD ST. PHILADELPHIA 33, PA.

YEARS AHEAD IN DESIGN!

A PRODUCT WITH A BRIGHTENING FUTURE

A PACKAGE THAT SAYS "BUY ME"

and SEAL-SPOUT*

—the pouring spout with a merchandising punch. Packages with SEAL-SPOUTS are . . .

easier to open
easier to pour
easier to close
better to store

Housewives favor these conveniences. They mean less spillage in using or storing—a greater protection of food products from dampness and infestation.

Manufacturers, in addition to the ease of applying *Seal-Spouts* right in the assembly line, will profit from their high merchandising value.

T. M. Reg. U. S. Pat. Off.

SEAL SPOUT Corp.

MOUNTAINSIDE, NEW JERSEY

Drug aerosol session

The increasing importance of aerosols in the pharmaceutical field was made clear at a symposium on the subject Aug. 20 at the Philadelphia College of Pharmacy and Science, Philadelphia.

The all-day session, conducted by officials of the college and moderated by Dr. Linwood F. Tice, associate dean and director of the department of pharmacy, was attended by more than a hundred representatives of leading pharmaceutical and chemical houses, as well as representatives of propellent, container and valve companies. Dr. Martin Barr, associate professor of pharmacy at the college, pointed out that aerosol dosage demands consideration because it offers such outstanding advantages as:

1. Ease and convenience of use by the consumer.
2. Minimum manual contact with the medicament—gentle application.
3. No waste of product, no muss or mess.
4. Exclusion of air, eliminating possibility of contamination or loss of strength.

Some 100 pharmaceutical aerosols are now on the market, Dr. Barr said. Among the important types are topical anesthetics, spray bandages, surgical soap, adhesive-tape removers and products like the Medihaler aerosol intended for inhalation therapy.

Particularly good candidates for aerosol dosage and application, according to Dr. Barr, are ointments, creams, liniments, lotions and powders. Emulsions, already so important in pharmaceutical formulation would be a particularly good field for investigation, he said.

Inhalation therapy is a field of great promise for aerosols because the small particle size of aerosol-dispensed products induces very rapid transfer not only into body cavities, but also in some instances through membranes and into the blood stream. Dental preparations including breath sweeteners, stain removers and the like also show promise.

Much work is yet to be done, Dr. Barr said, in determining toxicity and safety of aerosol products and propellents, but growth of pharmaceuticals is expected to be rapid on many fronts.

HOW MUCH IS YOUR SHIPPING DAMAGE COSTING YOU?

Pre-Testing your Packages with this

GAYNES VIBRATION TESTER

CAN SAVE YOU THOUSANDS OF DOLLARS PER YEAR

N. S. T. Approved

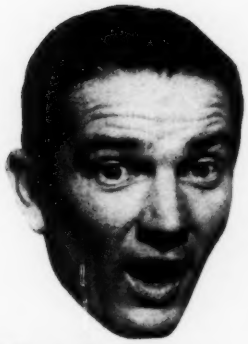
- 2-YEAR UNCONDITIONAL GUARANTEE
- DUPLICATES THE PUNISHING MOTIONS ENCOUNTERED IN ACTUAL SHIPMENT
- EXCLUSIVE GILMER Timing Belt Drive — quiet, efficient, trouble-free!
- COMPLETE — NO EXTRAS TO BUY! — ready to install and use
- CAPACITIES 50 TO 10,000 LBS.

WRITE TODAY FOR COMPLETE brochure on Vibration, Incline-Impact (Conbur) and Drop Testers.

America's Foremost Manufacturer of Package Testing Equipment

GAYNES ENGINEERING CO.

1644 W. Fulton St. • Chicago 12, Illinois



WOW! What mileage!

Findley adhesives have a way of giving dollar-saving results. Not only by allowing greater mileage, but also by cutting waste — by minimizing slowdowns and shutdowns. New, high speed adhesives are responsible for these results.

For money-saving proof give us a call — or let our specialists fill you in on the details. We'll show you how to . . .

PUT "WOW" IN YOUR PRODUCTION!

Findley's INDUSTRIAL ADHESIVES exclusively

Dept. M Milwaukee 45, Wisconsin

Solution of a drum-liner problem

[*Continued from page 139*]

have met all of the other criteria.

We also studied switching from steel drums to containers made of other materials. But the harder we looked at the problem of providing full protection against contamination, leakage and rupture, the better steel looked. ICC shipping regulations were also a factor in remaining with the old standby.

We were fairly certain the ultimate answer would be some type of baked liner, but even here there was one problem: Would the baking temperature be too high for the inks used in lithographing the exterior? Of course, the normal process of printing first and lining second could be reversed, but the added cost could tip the scales. This problem was solved by a special white ink which would not yellow at curing temperatures above 400 deg. F.

Important tools in the testing and evaluation of the many linings checked were the test cup, shown in an accompanying illustration, and the so-called "hot room" at the drum-supplier's laboratory. To permit observation of product effects in both the liquid and vapor phase, the lined cups were half filled, with the lined lid clamped tightly to the base. Carefully controlled test periods at elevated temperatures simulated actual use conditions on an accelerated basis and permitted rapid screening of unsatisfactory linings.

The illustration shows how one liner passed this test exposure without difficulty and another failed. The failure was only a partial one, but it still eliminated that particular liner.

The ultimate answer after months of tests of liners proved to be not one, but two linings—two high-bake copolymers. One provides the solvent resistance which so many others lacked. The other insures the flexible adherence to the drum which the liners with good solvent resistance lacked.

Despite good performance under the accelerated aging conditions, the new liner had to withstand a 10-month test period at 117 deg. F. in actual drums filled with highly solvenated resins. When no liner failure of any kind occurred, we knew our performance problem was at an end and the two-coat liner was adopted as standard.

The two-coat system has been in use for nearly a year. It has provided complete protection for every one of our silicone products, working as well on each as did previous liners designated for individual product lines.

Although the price of the two-coat system is within the range fixed at the outset of our studies, it is close to the top limit and we will continue to look at ways to reduce it. However, the price is such that we have not considered any change in the policy of providing containers without cost, without deposits and without return.

CORRECTION: In our August issue ("Pre-Packed Accessories," p. 135), Powers Regulator Co.'s sales-promotion manager was incorrectly identified, through a misspelling, as Earl R. Brown. The proper identification is Earl R. Bowman.

An important message to every Modern Packaging subscriber

The new Modern Packaging Encyclopedia Issue is going to press and will soon be on its way to you — as part of your regular magazine subscription!

Watch for it! And when you get it — get acquainted! It's a business advisor, cost consultant, production tool, technical informant and purchasing guide. A valuable friend, in short, whose value increases in direct proportion to the number of times you use it.

P.S. TO PACKAGING SUPPLIERS

America's mass packagers use the Encyclopedia Issue as their standard reference book. The only annual in the industry, it's used day-in, day-out — all year long. No wonder it's such an ideal medium for your advertising message!

Classified Advertisements

Employment
Business Opportunities
Used or Resale Equipment

Materials Equipment Wanted

WANTED: Two Smithe Cellophane Envelope Machines Mod. #VW or similar. Reply Box 724, Modern Packaging.

CLEAR ACETATE WANTED: Butyrate, Hi-Impact. All Other Plastic Scrap in any Form. CLAUDE P. BAMBERGER, INC., One Mount Vernon Street, Ridgefield Park, N.J., Telephone: HUbbard 9-5330

WANTED: Simplex Heat Seal Poly Kraft Machines for Mfg. 24 inch wide pouches, also, 50 inch or wider Paper and Cloth Sheeter and 50 inch or wider Beck Slitter. Reply Box #731, Modern Packaging.

Machinery and Equipment For Sale

FOR SALE: Two Polyethylene Bag sealing Machines Conveyor equipped—Produces small neat bead seal on bag tops at high rate of speed. Equipment in first class condition. Can handle wide variety of bag sizes. For further details contact Box 733. Modern Packaging.

BARTELT BAG MAKING MACHINE
Bargain price for quick sale. Electric eye registration, temperature controls. T. J. Lipton, Inc., Hoboken, N.J. Attention: A. Cuddeback.

FOR SALE: Model U-6 Package Machinery wrapping machine #22551, equipped with a Westinghouse CSP-203 enclosed motor, with 220 volt, 60 cycle, 3 phase, 1 H.P., 1725 R.P.M. for overwrapping various packages in heat sealing cellulose and apply thermoplastic label. Infeed has clip-on extension plates. Contact Ellison Bakery Inc., RR #6, Ft. Wayne, Ind.

FOR SALE: WORLD'S LARGEST STOCK of wrappers—Rebuilt and guaranteed. At great saving. All types and sizes of wrapping machines now available for immediate delivery. Pneumatic Scale late style Packaging Unit with Automatic Feeder, Bottom Sealer, Filler, Top Sealer and all interconnecting conveyors. For giant size box. Package Machinery Co. FA, FA2, FA3 and FA4 Wrappers with and without Electric Eye. Hayssen adjustable Wrappers—3"-7", 5"-11", 7"-13", 7"-17", 9"-19", 12"-24", 15"-25". With and without Electric Eye. For cellophane or wax paper. Heat seal or glue seal. Hudson Sharp Campbell Models 2W6, 2W8 and 2W10 Cellophane Wrappers. Jones Automatic Carton Forming and Filling Machine. Standard Knapp 429 Automatic Carton Sealer. Tell Us Your Requirements. Write, Wire, Phone Collect. Union Standard Equipment Company, 318-322 Lafayette Street, New York 12, N.Y.

FOR IMMEDIATE SALE: Excess inventory, 110,000 virgin clear flexible cellulose acetate thin wall shell vials with red polystyrene bottoms and caps, 3/4 in. diameter, 1 1/4 in. body length, overall length (cap on) 1 3/8 inches. Price $950.00 for quick sale. Write, wire, phone collect H & K Sales Company, 4505 State Line, Kansas City, Missouri.

FOR SALE: One saran bag machine 8 1/2" bag width, one sheeter 24" web, one hot stamp machine, one color, one hot stamp machine, two colors. All machines are in excellent condition. They may be seen by request. Reply Box 730, Modern Packaging.

FOR SALE: 1957 Wolverine Flexographic Printing Unit—one color—156" wide floor model—3 Pitch Gearing—Air Cylinder Lift—free wheeling. Equipped to print 3/4" thick material. Can be converted to standard grades of paper. Unit never used and can be seen at plant near Los Angeles, California. Write Box No. 732, Modern Packaging.

Help Wanted

MACHINERY ENGINEERS
We have responsible positions open in a rapidly growing young company for mechanical engineers experienced with automatic case packing and can handling machinery or automatic wrapping machinery. Unusual opportunity in an eastern location. Reply Box No. 734, Modern Packaging.

PACKAGING PERSONNEL: Positions Filled and Secured. A Confidential Nationwide Service for employers seeking personnel and individuals seeking new positions. Inquiries invited. Reply to Graphic Arts Employment Service, Est. 1952, Helen M. Winters, Manager; Dept. PAC-10. 307 East 4th Street, Cincinnati 2, Ohio. Phone CHerry 1-2202.

SALESMEN WANTED: We are printers and converters of cellophane and polyethylene located in New York City. Openings available for men with experience in New York, Pittsburgh, Ohio, Boston and North Carolina. Our complete line of flexible packaging materials offers an excellent opportunity for the right men. All replies held in strict confidence. Reply Box #719, Modern Packaging.

MANUFACTURERS REPRESENTATIVES: to sell outstanding printed line of polyethylene bags and rolls—conventional constructions plus unusual forms for out-of-the ordinary packaging. Several good areas available. List other lines handled in first letter. Write Shelly, Inc., Division of Brown & Bigelow, Farmington, Minnesota.

PACKAGING MACHINE DESIGNER CALIFORNIA: The experienced man with an imaginative approach to packaging machinery design is invited to investigate this position in the newly formed Package Development Center of a large and integrated West Coast Manufacturer of paperboard packaging.
While several years experience in the machine design of automatic packaging equipment, package handling equipment or related small machinery are required, emphasis will be placed on the ability to apply imagination and ingenuity to the practical design, development and prototype supervision of automatic equipment for forming, filling, sealing and closing cartons and containers.
This opening created by the Company's long range expansion program will provide outstanding challenge and opportunity to the qualified individual. Please write to present your qualifications and receive further information. L. E. STEVENSON, P. O. BOX 3611—San Francisco 6, California.

PACKAGING ENGINEER: For broad packaging development program in new Research Department of integrated operation. Background in corrugated containers desirable but not essential. Salary and responsibility commensurate with experience. Mid South location. Apply Box 722, Modern Packaging

---

SALESMAN WANTED: Excellent Opportunity. Specialty sales in polyethylene packaging. Flexible packaging experience preferred but not necessary. Salary commensurate to experience. Location: Chicago and other areas. Many fine fringe benefits. All replies held strictly confidential. Send complete resume to Bemis Bro Bag Company, Plastic Package Plant. Box 905, Terre Haute, Ind. Attention: Mr. W.P. Conway, Sales Manager.

WANTED: Large well-known distributor of glass and plastic containers and closures seeks young man as sales representative in Northern New Jersey territory. Some packaging experience preferable, but not essential. Salary commensurate with experience. Submit detailed resume to: Box 723, Modern Packaging Magazine.

Continued on page 260

WHITE MAGIC...

AND PAPER NEWS FOR YOU!

Unmatched in paper history are the eye appeal, sales appeal, and *new strikingly brilliant whiteness* of these strong Nibroc® White papers.

Brown Company's "white magic" is the exclusive new process that bleaches its own engineered pulps to yield unbelievable snow white brightness in Nibroc White for envelopes, flour sack and gummed tape.

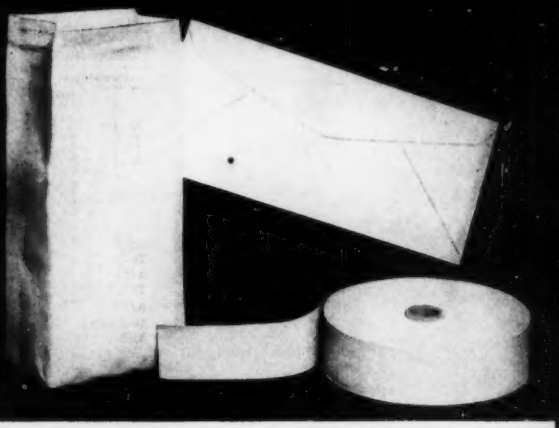
Send for samples and see the difference yourself! Compare this new bright whiteness with other papers you are using. The contrast will amaze you.

For superlative presentation of your sales message, and trouble-free workability—try them. They can be machine-finished, supercalendered and/or embossed. For samples and complete data, write our Paper Sales Division, Dept. RD-10, in Boston.

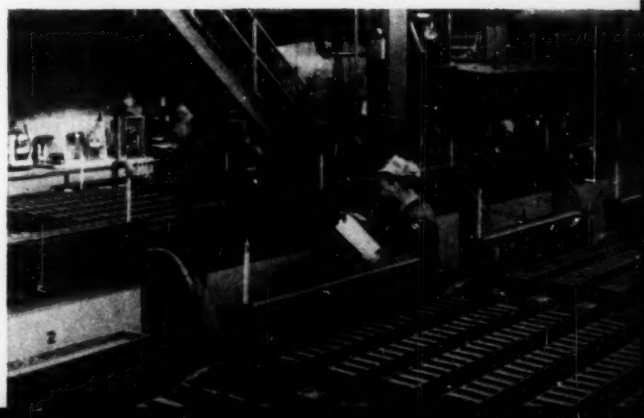
BROWN COMPANY

Berlin, New Hampshire

Paper Sales Division: 150 Causeway Street, Boston, Mass.



▲ **WHITE MAGIC IN ACTION!** That's the story of these eye-appealing White papers. They're far whiter than you ever thought possible.



HEART OF WHITE MAGIC! Electrolytic Cell Room of Brown Company's new chlorine dioxide plant—the only one of its kind in the United States.

Continued from page 258

WANTED: PACKAGING ENGINEER by country's leading Manufacturer of Boy's Wear. Want man experienced in soft goods who can do a complete and original job on labeling, packaging and cartoning . . . Excellent permanent opportunity. Reply Box 725, Modern Packaging.

WANTED—CLOSURE SALESMAN: Experienced salesman in plastic closures wanted. To the qualified man we offer splendid opportunity plus participation in profits. Replies held confidential. Reply Box 726, Modern Packaging.

LABEL and TAG SALES: If you sell PRINTING-ADVERTISING or related products or services we have available key city territories to sell nationally-advertised line of labels and tags. Right man can build high earnings, assured income. Excellent potential. Strong promotional backing Full or part time. Liberal draw against commission. Reply Box 728, Modern Packaging.

PACKAGING ENGINEER: Experienced in all phases of high speed wrapping materials and equipment. Familiar with layouts, methods, conversions. Must be willing to travel. Excellent opportunity for advancement. Salary open. Reply in confidence to Box 729, Modern Packaging.

ADHESIVES: We have a client who requires a man with a comprehensive knowledge of adhesives and resins and who can talk and write about them. It is a most unusual and challenging opportunity. Good pay now but much better after you have developed job to full potential. Must live in Cleveland. Some traveling. Give your complete background in confidential letter. DIX & EATON, Ten Ten Euclid Bldg., Cleveland 15, Ohio.

MANUFACTURERS REPRESENTATIVES: Rapidly expanding manufacturer of plastic containers and custom molded articles seeking top flight representation throughout the country. Straight commission in protected territories. Reply Box 721, Modern Packaging.

Situations Wanted

SITUATION WANTED: GRADUATE MECHANICAL ENGINEER-GRADUATE INDUSTRIAL DESIGNER: B.M.E., Brooklyn Polytechnic Institute. B.S. in Applied Arts (Industrial Design), Univ. of Cincinnati. Strong technical background. Seeks career and eventual responsible position as creative packaging engineer-designer. Send replies to: Robert D. Wolf, 140 Clarkson Avenue, Brooklyn 26, New York.

POSITION WANTED: AT PRESENT TECHNICAL DIRECTOR AaA-1 COMPANY DIVISION operating in non-ferrous foil rolling, extrusion, laminating, coating, vacuum metal evaporation. Metals, papers, boards, films, adhesives and colors. Electronics, containers and structural. Military and commercial. Technical and policy. Wish to change; available for one or two days per week on permanent basis. Reply Box 720, Modern Packaging.

SALES ENGINEERING EXECUTIVE: Substantial record in packaging machinery and chemical specialties, seeks responsible situation with growth potential. Offers creative, aggressive selling know-how and sound knowledge of administration, training, and advertising. Presently employed. Will relocate if necessary. University graduate. Reply Box 727, Modern Packaging.

Miscellaneous

WANTED TO BUY: Operating folding box factory. Key personnel must remain. Address inquiries to A. I. Kegan, 79 West Monroe Street, Chicago 3, Illinois.

ALL CLASSIFIED ADVERTISEMENTS PAYABLE IN ADVANCE OF PUBLICATION
NEW RATES: EFFECTIVE MARCH ISSUE
Closing date: 10th of preceding month, e.g., October 10th for November issue.
Per inch (or fraction) ..... $20.00. Each 3 inches or fraction (boxed) $10.00 extra.
For purposes of establishing rate, figure approximately 50-55 words per inch.
Address all communications to Classified Advertising Department,
Modern Packaging, 575 Madison Avenue, N. Y. 22, N. Y.
Modern Packaging reserves the right to accept, reject or censor classified copy.

Test your Aerosols!

Stainless steel Rex Table-Top chain, available in various widths for single or double lines of cans...and the cans are prevented from slipping on the incline and decline by magnets attached to the chain track. The tank itself may be constructed in hot dipped galvanized or stainless steel, and the unit serves as both a heat and leak test tank.

FREE! **MAIL THIS COUPON FOR FULL DETAILS**

Island Equipment Corp. **Dept. MP-10**
27-01 Bridge Plaza North
Long Island City 1, New York

Please send particulars on new HEAT and LEAK TEST TANK

COMPANY.....

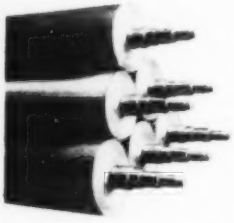
NAME.....

ADDRESS.....

CITY..... STATE.....

"Roll 'em!"

Take the wrinkles out of foil, film and paper with our HERRINGBONE ROLLS.



Precision rolls by Inta-Roto . . . precisely engineered, precisely ground . . . keep your work **flowing.**

Gravure base cylinders, herringbone, spiral type heating or cooling and other rolls to exact specifications. Write or call:

INTA-ROTO
MACHINE COMPANY, INC.

P. O. Box 454, Byrd Airport, Richmond 3, Va.

Teletype: Fairfield 435, Richmond, Va.

Phone: Fairfield, Va. 4181

GOLD

means business

Genuine Gold . . . the classic symbol of elegance and refined taste . . . can be applied like any ceramic label or decoration . . . at a cost only slightly higher than common color. Screen printed on glass or ceramic surfaces, permanently fired to resist abrasion and corrosion, Hanovia 22 Karat liquid gold adds the vital "extra" to any sales program.

Take advantage of the eminence inherent in real gold printing or decoration on ceramics.

For information, contact your glass container supplier.

Hanovia

CHEMICAL & MANUFACTURING COMPANY

1 West Central Avenue, East Newark, New Jersey

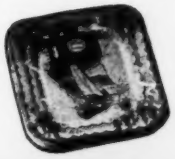
ENGELHARD INDUSTRIES

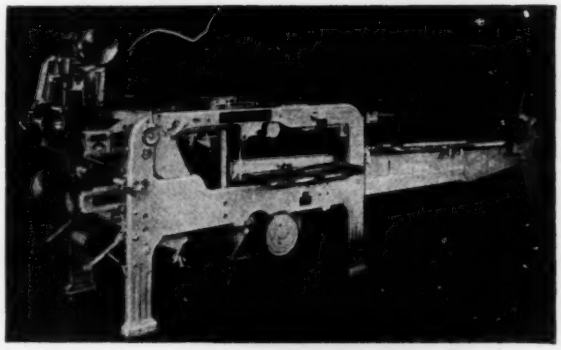
On short runs and long runs . . . the versatile OLIVER wraps and labels products to sell and save

Oliver Roll-Type Labeling System saves dollars daily

Automatic Labeler heat seals a roll-type label (printed by Oliver) to the wrapper. Label can be imprinted with essential information just before it is applied. Imprint items changeable in a few seconds. Labeler—with or without Imprinter—can be attached to other makes of wrapping machines. Get all the facts.

The quick adjustability of the Oliver saves hours and dollars every day. And you know that your products are wrapped and labeled to look their best. Many products are wrapped and labeled on the Oliver: paper specialties, textile items, baked goods, meats, and products only remotely similar. It wraps them rapidly, securely, neatly. Using modern wrapping materials, it heat-seals or glue-seals packages for utmost protection. Infeed conveyors in various lengths. Printed wrappers registered by electric eye. Foolproof cardboard folder-feeder. Eight models—speeds up to 50 a minute. Its one-man operation and versatility make the Oliver indispensable on short and long runs. Write for details.





Oliver Machinery Company
Grand Rapids 4, Michigan

OLIVER Wrapping Machine **with Roll-Type Labeling System**

Index to Advertisers

248 Acme Gravure Services, Inc.
82 Acme Steel Company
183 Aluminum Company of America, Collapsible Tubes Div.
231 Aluminum Foils, Inc.
166 American Flange & Manufacturing Co., Inc.
189 American Viscose Corporation
63 Anchor Hocking Glass Corporation
238 Anderson Bros. Mfg. Co.
78 Angier Adhesives, Div. of Interchemical Corp.
6 Armstrong Cork Company, Glass and Closure Div.
264 Atlas Coatings Corp.
208 Avery Adhesive Label Corp.

161-163 Bakelite Company, A Division of Union Carbide Corp.
52 Baldwin-Lima-Hamilton Corporation, Hamilton Division
16 Bartelt Engineering Co.
90 Bemis Bro. Bag Co.
55 Bensing Bros. and Deeney
230 Bivans Corporation
263 Black-Clawson, Company, The
194 Bradley Container Corporation
243 British Cellophane Limited
259 Brown Company
157 Burt, F. N., Company, Inc.

218 Cameo Die and Label Company
33 Cameron Machine Company
196 Carey Press Corp.
51 Celanese Corporation of America, Plastics Div.
17 Cellu-Craft Products Corporation
207 Celluplastic Corporation
93 Central Fibre Products Company
197 Chippewa Plastics, Incorporated
208 Claremont Waste Manufacturing Company
258, 260 Classified
103 Cleveland Container Company, The
40 Cochran Foil Company, Incorporated
47 Columbia Box Board Mills, Inc.
104 Conapac Corporation, Roto Bag Div.
224 Consolidated Packaging Machinery Corp.
91 Container Corporation of America
37 Continental Can Company,
1 Robert Gair Div.
202, 203 Hazel-Atlas Glass Div.
Back Cover Plastic Container Div. Crown Zellerbach Corporation.
96A Gummed Tape Div.
79 Western-Waxide Specialty Packaging Div.

177 Dale, John, Limited
228 Dennison Manufacturing Co.
5 Dobeckmun Company, The
26, 27 Dow Corning Corporation
36 duPont de Nemours, E. I., & Co. (Inc.) Film Dept., Cellophane
199 Dusenbery, John, Co., Inc.

7 Eastman Chemical Products, Inc.
201 Elizabeth Carbide Die Company, Inc.
209 Embart Manufacturing Co.
214 Eriez Manufacturing Company
236 Exact Weight Scale Company, The

198 Federal Paperboard Co., Inc., National Folding Box Div.
221, 222 Fibreboard Paper Products Corp.
199, 215, 255, 263 Findley's
199 Flex Products Corp.
Food Machinery and Chemical Corporation,
219 Canning Machinery Div.
92 Simplex Packaging Machinery Div.

1 Gair, Robert, Div. Continental Can Company
105 Gardner Board and Carton Co., The
88 Gaylord Container Corporation
255 Gaynes Engineering Co.
100, 101 General Printing Ink Div. of Sun Chemical Corp.
15 Gibbs Automatic Moulding Corporation
23 Gilman Brothers Co., The
164 Gilman Paper Company
72 Goodrich, B. F., Company, The
19, 20 Goodyear Tire & Rubber Co., The, Packaging Films Dept.
86 Growers Container Corporation
68 Gummed Products Co., The

238 Hamersley Mfg. Co., The
52 Hamilton Div. of Baldwin-Lima-Hamilton Corp.
261 Hanovia Chemical & Manufacturing Company
250 Hansella-Werke Albert Henkel A. G.
215 Harkin Affiliates, Inc.
181 Hayssen Manufacturing Company
202, 203 Hazel-Atlas Glass Div. of Continental Can Co.
76 Heekin Can Company, The
244 Heinrich, H. H., Company
193 Hinde & Dauch
35 Hudson-Sharp Machine Co.

196 Injection Molders Supply Company
81 Inland Container Corp.
208 Inman Manufacturing Co., Inc.
260 Inta-Roto Machine Co., Inc.
Interchemical Corporation,
78 Angier Adhesives Div.
77, 213 Printing Ink Div.

18 International Paper Company, Southern Kraft Div.
38 International Staple & Machine Company
260 Island Equipment Corp.
58 Ivers-Lee Company

34 Jones & Laughlin Steel Corporation, Container Division

266 K V P Company, The
229 Kennedy Car Liner and Bag Co., Inc.
71 Keyes Fibre Company
35 Kidder Press Co., Inc.
234, 235 Kimberly-Clark Corporation
64 Kleen-Stik Products, Inc.

200 LectrOmatic Devices, Inc.
25 Lowe Paper Company

236 M R M Company
226 Macbeth Daylighting Corporation
32 Manhattan Adhesives Corporation
233 Markem Machine Co.
210, 211 Mead Board Sales, Inc.
83 Mercury Engineering Corporation
253 Mercury Heat Sealing Equipment Co.
95 Metro Glass Company, Inc.
84, 85 Miller, Walter P., Co., Inc.
67 Milprint Inc.
99 Minnesota Mining and Manufacturing Co., Chemical Products Group
89 Mono-Sol Corp.
28 Monsanto Chemical Company, Plastics Div.
205 Mosinee Paper Mills Co.
59-62 Mystik Adhesive Products, Inc.

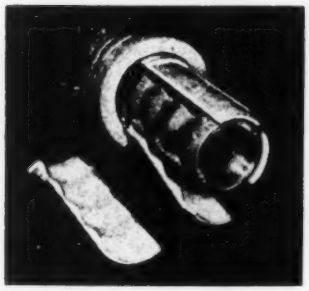
106 Nashua Corporation
9 National Can Corporation
42 National Container Corporation
198 National Folding Box Div. of Federal Paper Board Co., Inc.
212 National Instrument Co.
97 National Metal Edge Box Co.
Inside Front Cover National Starch Products Inc.
50 New Era Manufacturing Co.
53 Niemand Bros., Inc.

31 Old Dominion Box Company Inc.
178, 179 Olin Mathieson Chemical Corp., Film Div.
98 Forest Products Div.
261 Oliver Machinery Company
239 Oneida Paper Products, Inc.
146, 147 Owens-Illinois

(*Continued on page 264*)

Dilts LIGHTWEIGHT EXPANDING CHUCK

Cuts Roll Shaft-up Time by 50%



REDUCES CORE DAMAGE

HOLDS WITHOUT SLIPPING

Easy to Handle • Simple to Operate • Prevents Damage

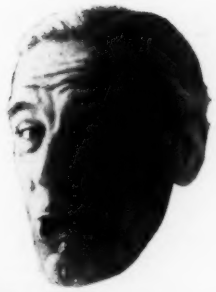
. . . chuck holds roll concentrically—grips core on inside and transmits full braking torque without slippage

Standard Sizes—3"—3½" and 4" core I.D. to fit 1⅛" thru 2⅜16" round shafts and 1¼" square shafts. (High Tensile Aluminum)

5"—6" core I.D. to fit 2⅜16" thru 3⅝16" round shafts. (Malleable Iron)

Write for specification sheet 102A or place order direct.

THE BLACK-CLAWSON COMPANY
DILTS DIVISION • FULTON, N. Y.



WOW! That's the Adhesive I've been looking for!

Adhesives from Findley's have a way of getting results.

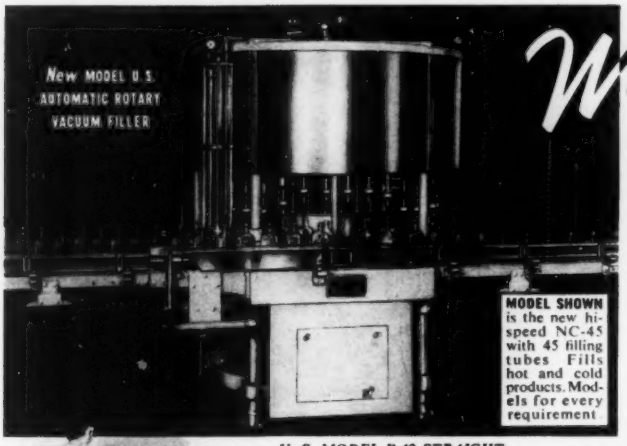
What's your use — converting, bags, tubes, folding cartons, envelopes? Or is it packaging and labeling? Or perhaps working with Mylar, polyethylene or polystyrene?

Tell us your problems. Let us prove how Findley adhesives . . .

PUT "WOW" IN YOUR PRODUCTION!

Findley's INDUSTRIAL ADHESIVES *exclusively*

Dept. M Milwaukee 45, Wisconsin



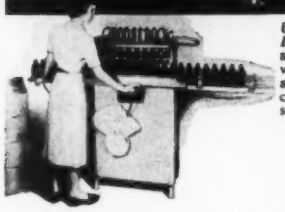
MODEL SHOWN is the new hi-speed NC-45 with 45 filling tubes. Fills hot and cold products. Models for every requirement.

Why it Does Everything So Well

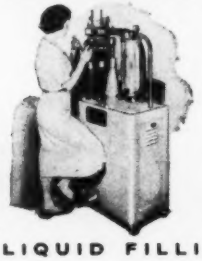
"U. S. AUTOMATIC ROTARY VACUUM FILLER" is the name of a great filling principle. It is built in a series of 9asic Models that differ in size and capacity. The Model chosen is custom-engineered to meet the user's specific requirements. Thus, the user gets a universally endorsed long-life machine, that is custom-built to his entire needs and insures dependable operation at minimum cost.

FORTY-FIVE YEARS OF SPECIALIZATION have perpetuated U. S. leadership in the filling of liquid products. Today, the most famous brands in pharmaceuticals, wines, liquors, foods, condiments, household and industrial chemicals, waxes, and detergents pass through the filling tubes of these great machines.

Whatever your liquid filling needs may be, write for engineering recommendations or request the "Rotary Filler Bulletin."



U. S. MODEL B-49 STRAIGHT-LINE VACUUM FILLER. Most automatic one-man filler. With or without discharge conveyor. For all liquids. Changeover for all types containers. Contact parts stainless steel, or plastics. Get Bulletin B-49.



U. S. MODEL B-2 VACUUM FILLER
Continuous production, filling two containers at a time. Automatic product supply. For all containers up to 4⅛" dia. All liquids and semi-liquids. Portable. Write for Bulletin B-2.

U. S. SIPHON FILLER
For all liquids, foamy products or products that do not permit agitation. Stainless steel tubes, acid resistant glass lined tank. Write for the Siphon Bulletin.

US 45th ANNIVERSARY

U. S. BOTTLERS MACHINERY CO.
4017 North Rockwell Street Chicago 18, Illinois

BOSTON • NEW YORK • PHILADELPHIA • SAN FRANCISCO • LOS ANGELES • SEATTLE • DENVER
PORTLAND, ORE. • OGDEN • JACKSON, MISS. • KANSAS CITY • TUCSON • ATLANTA • HONOLULU
SANTIAGO • SAO PAULO • MONTREAL • TORONTO • VANCOUVER • WINNIPEG • TOLEDO (export)

SPECIALISTS IN LIQUID FILLING AND CONTAINER CLEANING EQUIPMENT

Continued from page 262

94 Paper Converting Machine Co.
200 Paper Machinery & Research, Inc.
41 Paraffined Carton Research Council
22 Parsons & Whittemore Graphic Corporation
252 Paterson Parchment Paper Company
212 Perl Machine Mfg. Co., Inc.
201 Peter Partition Corp.
185 Pfizer, Chas. & Co., Inc.
191 Phillips Petroleum Company, Plastic Sales Division
21 Pitney-Bowes, Inc.
253 Plastic Artisans, Inc.
240 Plax Corporation
24 Pneumatic Scale Corp., Ltd.
248 Porter & Dugas, Inc.
215 Potdevin Machine Co.
217 Precision Valve Corporation

3 Redington, F. B., Co.
247 Reed-Prentice Corp.
204 Resina Automatic Machinery Co., Inc.
12, 13 Reynolds Metals Company Plastics Division
195 Rhinelander Paper Co., Sub. of St. Regis Paper Co.
8 Riegel Paper Corporation
251 Risdon Manufacturing Company, The
104 Roto Bag Div., Conapac Corp.
65 Rowell, E. N., Co., Inc.
73 Royal Manufacturing Company, Inc.

44, 45 St. Regis Paper Company, Gummed Products Co., Sub.
68 Rhinelander Paper Co., Sub.
195 Seal Spout Corporation
254 Simco Company, The
264 Simplex Packaging Machinery, Div. of Food Machinery and Chemical Corp.
92 Sinclair and Valentine Co., Div. of American-Marietta Co.
10 Soabar Company
241 Spencer Chemical Co.
227 Standard Packaging Corporation
Inside Back Cover Star Aluminum Company Limited
30 Steigerwald, A. M., Co.
225 Stokes & Smith Co.
48, 49 Sun Chemical Corp., General Printing Ink Div.
100, 101 Warwick Wax Co. Div.
265

241 Testing Machines Inc.
39 Thilmany Pulp & Paper Co.
54 Toledo Scale Company
11 Tri-State Plastic Molding Co.
102 Tupper Corporation

161-163 Union Carbide Corporation, Bakelite Company Div.
263 U. S. Bottlers Machinery Company
249 U. S. Industrial Chemicals Co.
69 United Shoe Machinery Corp.

70 Venesta Ltd.
230 Vertrod Corporation
206 Vitra-Tone Engraving Corp.

265 Warwick Wax Company, A Div. of Sun Chemical Corp.
66 Waxed Paper Merchandising Council, Inc.
229 West Engineering Company, Inc.
56, 57 West Virginia Pulp & Paper Co.
79 Western-Waxide Specialty Packaging Div. of Crown Zellerbach Corp.
74 Wirz, A. H., Inc.
29 Wright Machinery Company, Div. of Sperry Rand Corp.

MODERN PACKAGING

A BRESKIN Publication

Published by Modern Packaging Corp., 575 Madison Avenue, New York 22, N.Y.

INKS

•

for Roller Printing on

TREATED POLYETHYLENE

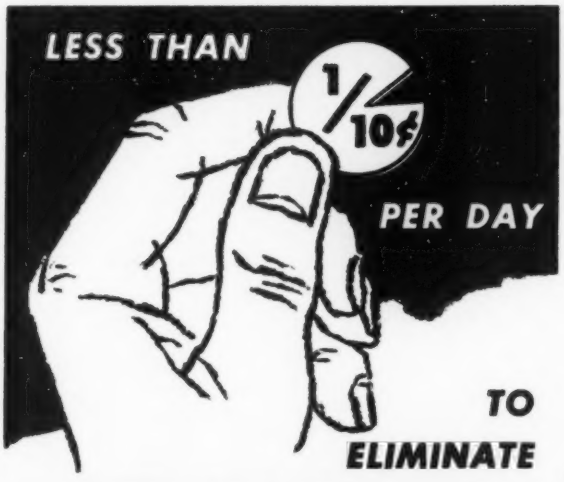
vinyl • polystyrene • acetates • butyrates

For samples and technical information, call or write

ATLAS COATINGS CORPORATION

5-35 47th Ave., Long Island City 1, N. Y.

STillwell 4-0537

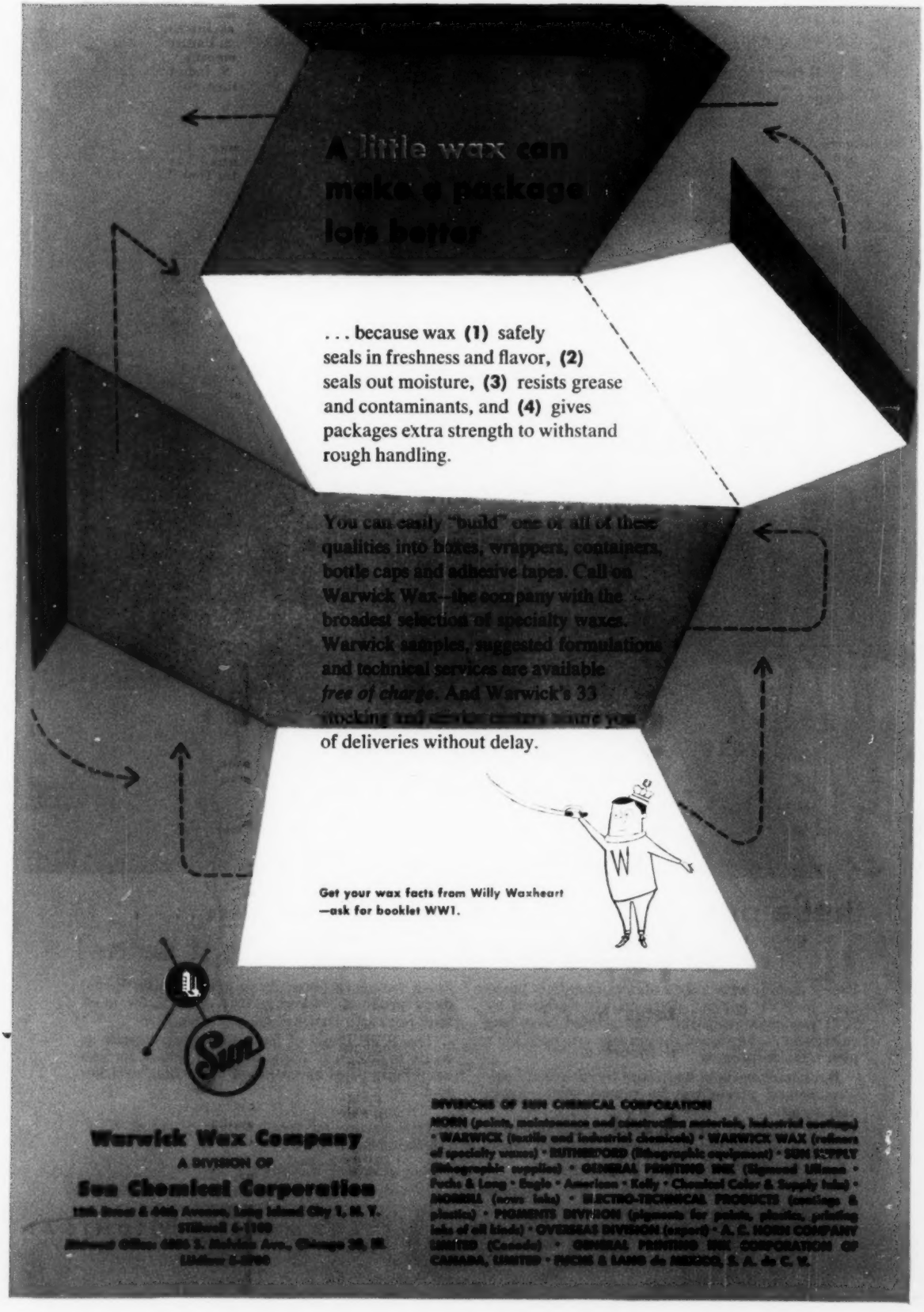


STATIC!

The SIMCO "Midget" static eliminator is *guaranteed* to be the most effective means available to end static in all packaging machinery . . . including cutting, slitting, printing, bagmaking, wrapping and filling machines . . . and it is adaptable to all types of materials. Yet its operating cost is less than 1/10c per day! Write for facts today.

the SIMCO company

920 Walnut Street, Lansdale, Pa.


A little wax can make a package lots better
. . . because wax (1) safely seals in freshness and flavor, (2) seals out moisture, (3) resists grease and contaminants, and (4) gives packages extra strength to withstand rough handling.
You can easily "build" one or all of these qualities into boxes, wrappers, containers, bottle caps and adhesive tapes. Call on Warwick Wax—the company with the broadest selection of specialty waxes. Warwick samples, suggested formulations and technical services are available *free of charge*. And Warwick's 33
of deliveries without delay.
Get your wax facts from Willy Waxheart —ask for booklet WW1.
W
Sun
Warwick Wax Company
A DIVISION OF
Sun Chemical Corporation
DIVISIONS OF SUN CHEMICAL CORPORATION
• WARWICK (textile and industrial chemicals) • WARWICK WAX (refiners
• GENERAL PRINTING INK (Sigmund Ullman •
• GENERAL PRINTING INK CORPORATION OF

From pine... to pulp...

to paper... to people...

through KVP

"Packaging America's food is our business. We comb 3,400,000 acres of woods to find suitable trees to remake into protective papers. Some call us 'Tree Farmers'—we cultivate more trees than we cut. So there will always be KVP paper for the future."

these packages sell themselves twice... first, on sight... then, on repeat sales!

Every item in this lady's shopping cart is packaged in KVP paper...distinctively designed by KVP packaging experts...and printed according to highest standards of the graphic arts on KVP's own modern presses.

Each package sold itself first by its eye appeal. The second phase will be repeat sales—again and again.

KVP begins by making the paper and proceeds all the way through, to produce low-cost packaging for every need: fresh foods, frozen foods, dairy products, baked goods...in fact, for most food products that need a package.

The KVP panel of food packaging experts is ready to design a "triple threat" package for you combining **sales-appeal, food protection,** and **low cost.**

Write today *for free samples of recent KVP craftsmanship.*

THE KVP COMPANY KVP KALAMAZOO, MICHIGAN

Do all suppliers of printed films produce "about the same kind of job"? Major users know differently. "Small details" can mount up to a major gain in return on packaging investment.

Volume buyers...

. . . companies like National Biscuit, Armour and Kraft strive for the extra packaging margin an experienced, well-equipped supplier can give them.

They know they can depend on Standard Packaging for:

Uniform quality in printed roll stock . . . "worth its weight" in better production line control

Fast, quantity-deliveries . . . to save costly storage space and keep inventories low and flexible

Clean, sharp printing . . . to add impact value on the shelves

Standard provides a complete flexible packaging service, with plants to serve you on both coasts. Ask to see samples of the diversified packages we are producing now for other companies whose brands you know and respect.

STAN PAK

STANDARD PACKAGING CORPORATION

FLEXIBLE PACKAGING DIVISION, CLIFTON, N. J.
MODERN PACKAGES DIVISION, LOS ANGELES, CALIF.

SALES OFFICES: 551 Fifth Avenue, New York 17, N. Y. • 1 Lisbon Street, Clifton, N. J. • 1200 Fullerton Avenue, Chicago, Ill. • St. Albans, Vt. Sheldon Springs, Vt. • 806 Park Square Building, Boston 16, Mass. • 123 South Broad Street, Philadelphia 9, Pa. • 734 S. E. Ankeney, Portland, Ore. 4800 East Dunham Street, Los Angeles, Calif. • 430 40th Street, Oakland, Calif. • 68 35th Street, Brooklyn, N. Y. • Burlington, Ontario, Canada

GIVE YOUR CUSTOMERS A

Bonus of Safety

PLASTIC BOTTLES BY CONTINENTAL

Ever break or spill a drug container in your bathroom? Everyone has! That's why people really go for Continental's unbreakable plastic bottles.

Continental plastic bottles are extra safe because they're so durable. They won't crack, leak, or spill. And they're perfect dispensers for drugs—whether it's sprayed, squeezed, or sprinkled. The product is protected against evaporation or loss of strength by a tight closure, but it's ready to use in an instant.

You get more beautiful containers when you use Continental's plastic bottles, too. We have many, many pleasing shapes and colors that give your product extra sales appeal. We'll even design an exclusive container especially for your product if you desire.

Like to see what Continental plastic bottles can do for you? To get the complete "bonus of safety" story, just call Continental.

CONTINENTAL CAN COMPANY

PLASTIC CONTAINER DIVISION
100 EAST 42ND STREET, NEW YORK 17, NEW YORK
2950 NORTH ASHLAND AVENUE, CHICAGO 13, ILLINOIS